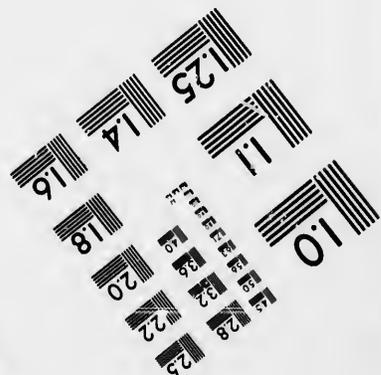
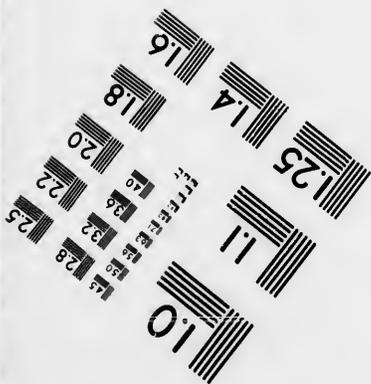
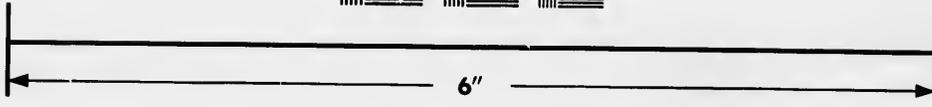
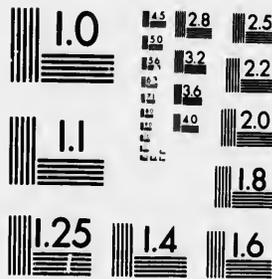


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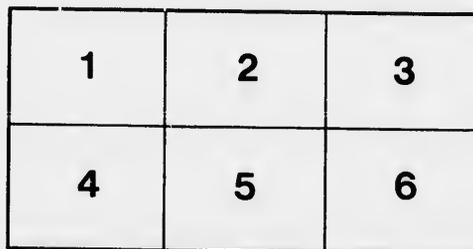
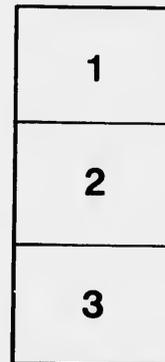
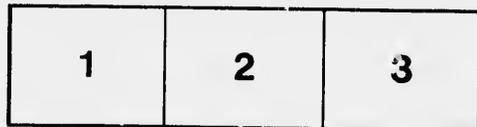
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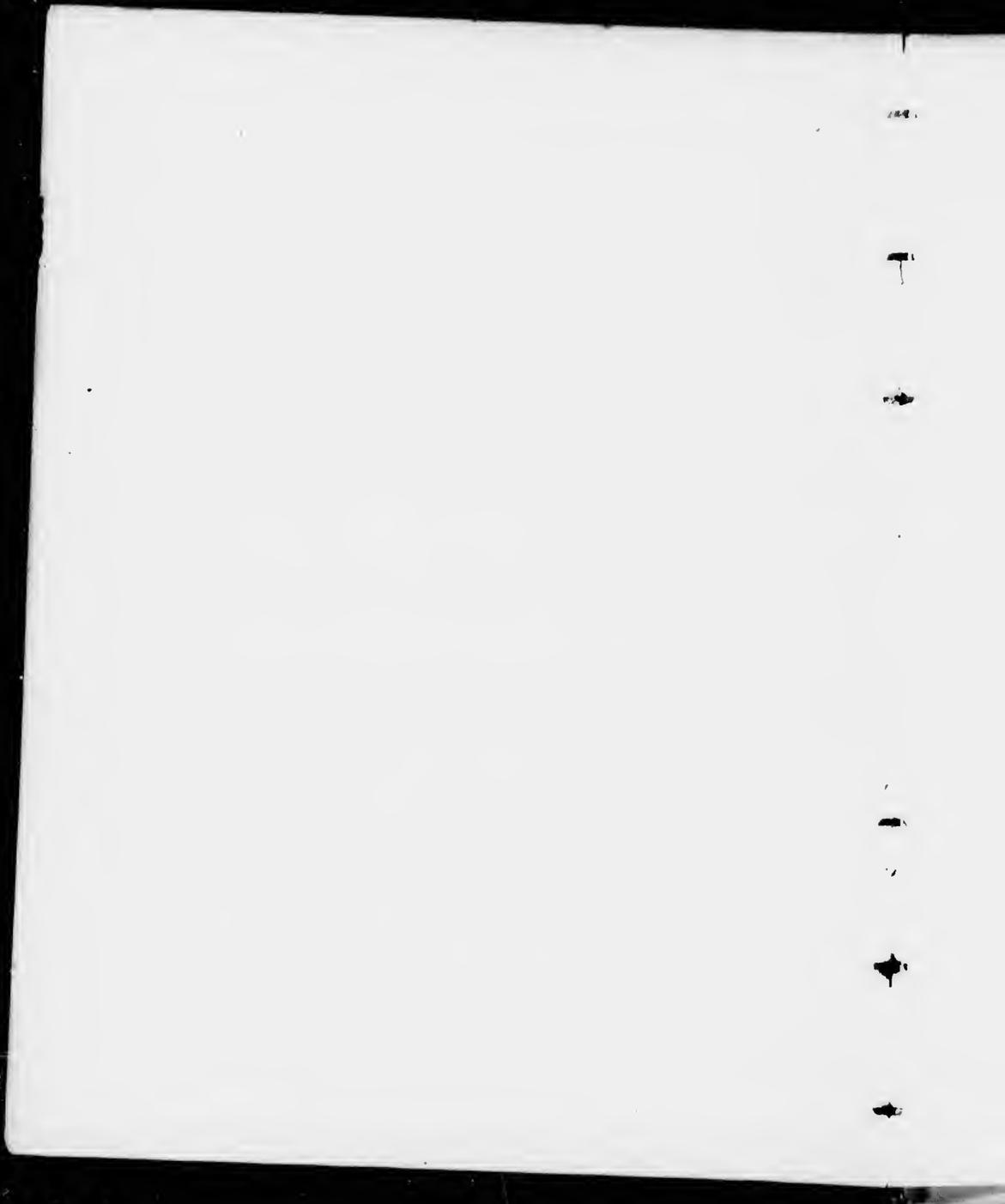
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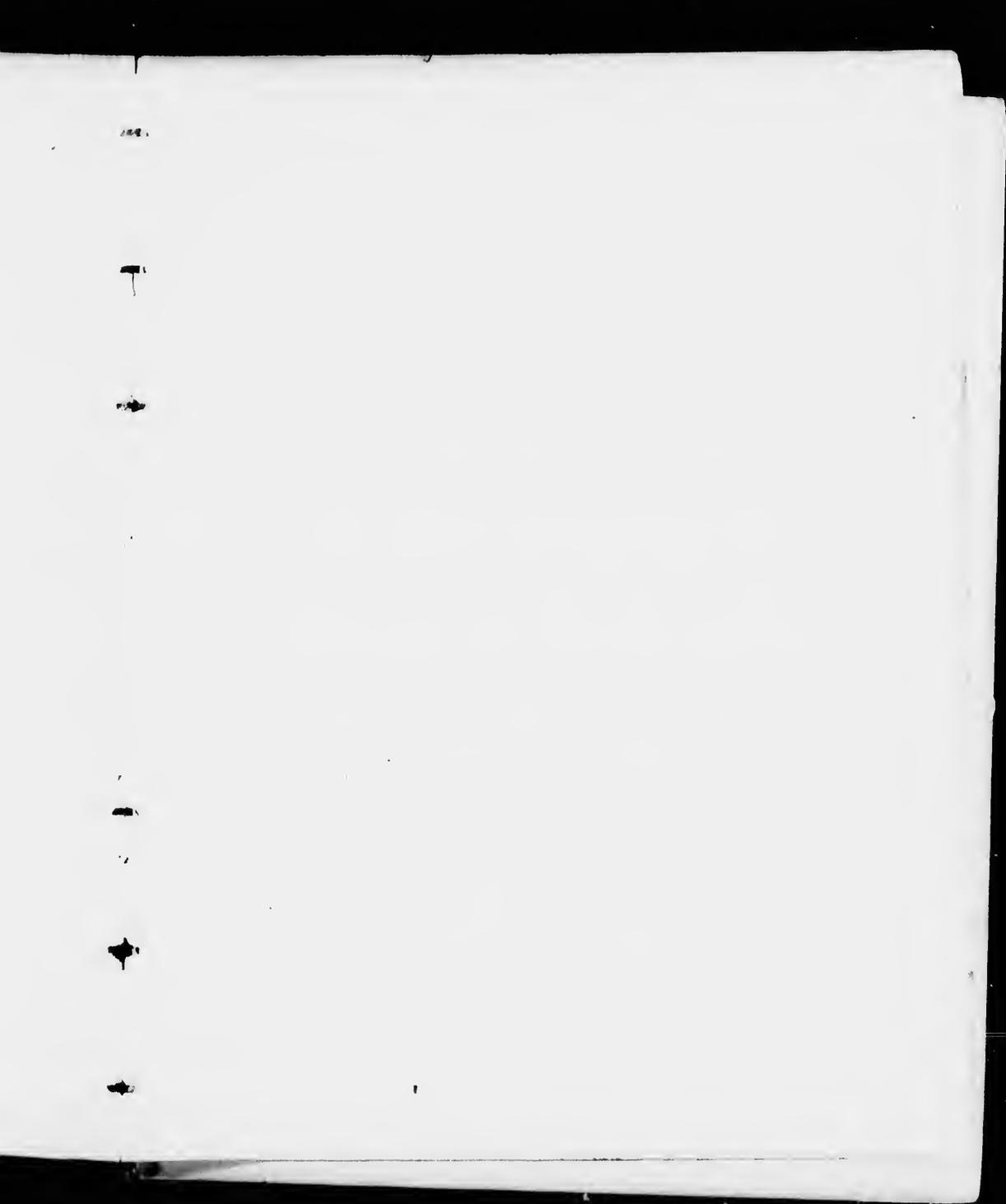
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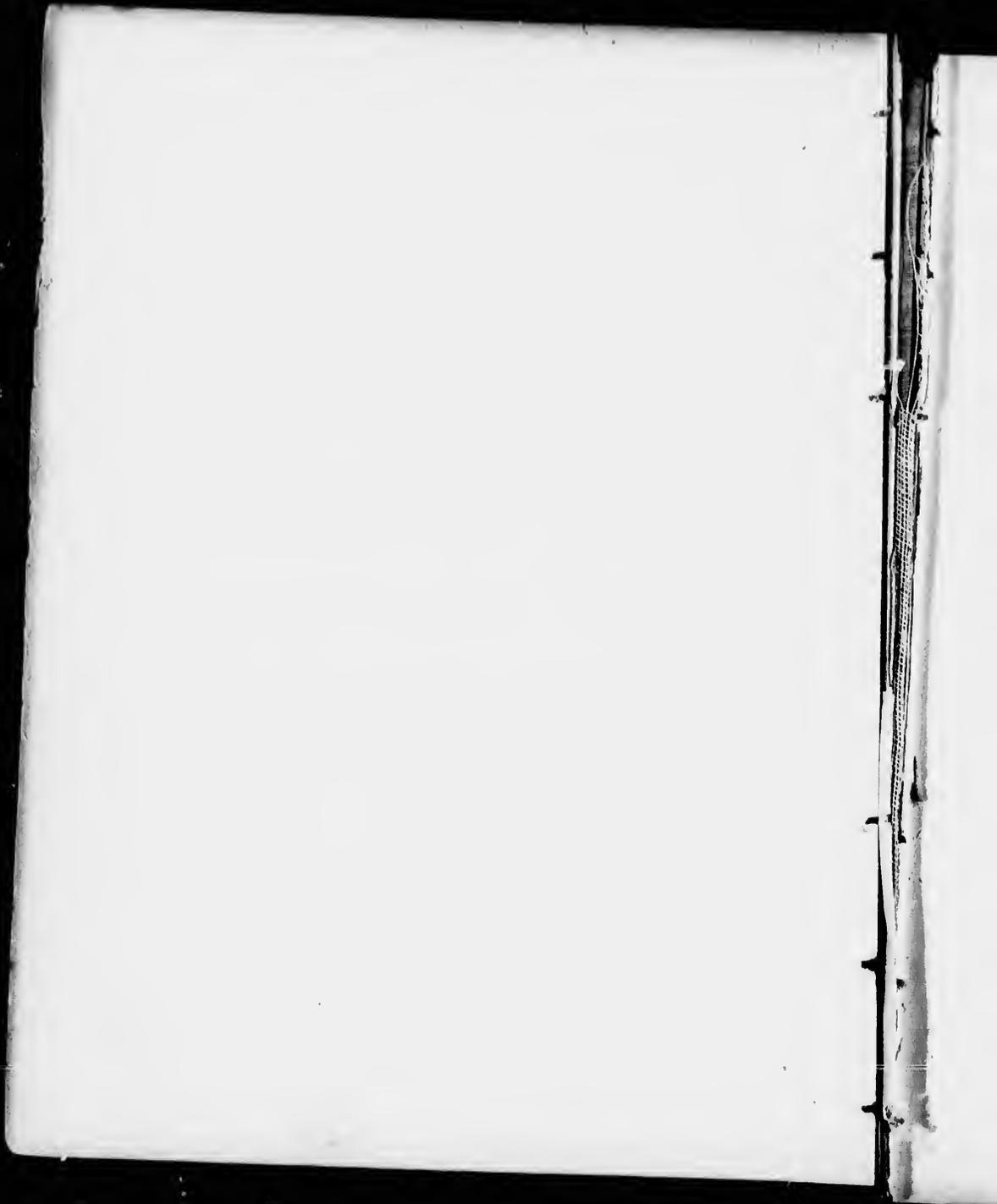
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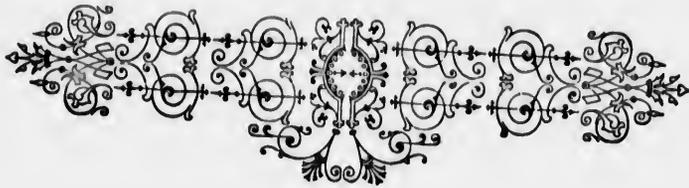
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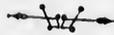
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PREFACE.



WE present this book to the public with the assurance that it contains more reliable information on the subjects treated than any work published. Our endeavor has been to give a concise description and treatment of the various schemes of "Decorative Art," treating each subject in such a manner that, although easily understood by the young beginners, yet the most accomplished amateur or professional may profit by the suggestions herein given.

Of late years there has been a steady advancement in the matter of home decoration, and we find but few homes that have not attained some feature of the "Decorative Art," and while instruction can be had for so small an outlay, we feel certain that there will be few homes without "THE POPULAR ART INSTRUCTOR."

Although we have made a feature of ornamental work, a subject always pleasant and attractive to the ladies at all seasons, we have also embodied in our book every information on such subjects as "Floral Painting in Oil and Water Colors," "Kensington Outline Painting," "How to do your

own Stamping and make your own Patterns." Further we give a very detailed process on the art of "Preparing and Painting Roman Crystal Photographs," and a treatise on "Landscape Studies in Oil." Each of these arts are treated in a masterly manner by artists who have for years made them a special study, and their wide experience in teaching some of the most inapt pupils has enabled them to give the directions so plain that they will be readily understood by anyone. These chapters will be found far in advance of any other heretofore published, containing much additional information which will be welcomed in every home ; in fact, the whole work is a valuable book of reference at all times.

In the preparation of this volume all useless matters have been rejected, and the useful and elegant have been procured and illustrated with lavish expense. The pictures alone cost more than some entire subscription books of the size that could be named, and we would here call your particular attention to our colored illustrations. Writers of recognized ability, specialists in their several fields, have been secured and liberally paid to furnish the text, which, together with the illustrations, has put in print a volume which should be in every home.

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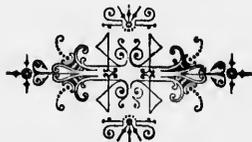




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5

" Sounds which address the ear are lost and die  
In one short hour ; but that which strikes the eye  
Lives long upon the mind ; the faithful sight  
Engraves the knowledge with a beam of light."



THE greatest art that the world has ever produced is the art of beautifying and making home attractive. As the grandest piece of sculpture the world has ever seen adorns a temple front, and the most beautiful painting is found to be in the decoration of a room, so the grandest and noblest motives that can stir the human heart are those awakened within the pale of domestic life. Beautiful art can only be inspired by pure and beautiful thoughts, and unless some elements of taste and beauty are provided for the leisure hours at home, how can it be expected that the young may find their homes more attractive than places of sin and amusement, and have pure thoughts, pure hearts, and a love of refinement.

What a fullness of enjoyment has our Creator placed within our reach by surrounding us with an atmosphere that may be shaped into sweet sounds, and by placing at our disposal many

beautiful things; and yet this goodness is lost to many of us through want of culture of the senses by which these provisions are enjoyed.

Why not have some elegance in even the humblest homes? We must first have cleanliness, which is the special elegance of the poor. But why not have pleasant and delightful things to look upon? There is no reason why all should not surround themselves with the evidence of beauty and comfort in all their shapes, and thus do homage alike to the gifts of God and the labors of his creation. The taste for the beautiful is one of the best and most useful endowments. It is one of the handmaids of civilization. Beauty and elegance do not necessarily belong to the homes of the rich. They are, or ought to be, all-pervading. Beauty in all things in nature, in art, in literature, in social and domestic life.

The cheapest and the most beautiful gifts that belong to all classes, rich and poor alike, are flowers; not exotics, but what are known to us as common flowers. A rose, for instance, is among the most beautiful of the smiles of nature. "The laughing flowers," in which there is more than gayety, though it takes a wise man to see the beauty and adaptation of which they are full! Bring in midwinter one of the commonest field flowers into a room, place it on a table, chimney-piece or mantel, and you seem to have brought a ray of sunshine into the place. There is a cheerfulness about flowers that brings delight to the drooping invalid. They are a sweet enjoyment, coming as messengers from the country, and seeming to say, "Come and see the place where we grow, and let your heart be glad in our presence." They are emblems of purity and truth, a source of fresh delight to the pure and innocent. A heart that does not love flowers or the voice of a playful child cannot be cheerful.

Have a flower in the room by all means. In summer they will cost you nothing, in winter but a trifle if your ambition is

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moderate, and the gratification it will give will be beyond price. An eminent physician says: "I have known the presence of a flower, by its cheerfulness, to save a life." If you can have a flower in your window, so much the better. What can be more delicious than the sunlight streaming through them—through the midst of crimson fuchsias and fragrant geraniums. To look out through them and to break the force of the sunbeams by the tender resistance of green leaves is, indeed, poetry. If you can train a clematis or smilax round the window, you will have the most beautiful frame you can invent for the picture without, whether it be the busy crowd, the distant landscape, the trees with their lights and shades, the change of the passing clouds, or the earth wrapped in its mantle of snow. Any one may thus look through flowers for the price of an old song. And what pure taste and refinement does it not indicate on the part of the cultivator? Flowers in the room, whether in their natural state or preserved, sweeten the air, make the home look graceful, give sunlight a new charm, rejoice the eye, and link nature with beauty. They are companions that will never utter a cross word to any one, but always look cheerful and smiling. Do not despise them because they are cheap, and because everybody may have the luxury as well as yourself. Common things are cheap, and common things are the most valuable. Were fresh air and sunshine to be had only for money, what luxuries they would be! But they are free to all, and these luxuries are seldom thought of. There is much in nature that we do not half enjoy.

If we open our minds to enjoyment we may find tranquil pleasure spread about us on every side. We want more loving knowledge to enable us to enjoy life, and we want to cultivate the art of making the most of common means and appliances for enjoyment which lie about us on every side.

A snug, clean home, no matter how tiny it may be, so that it is wholesome, windows into which the sun can shine cheerily, a

few good books (and who need be without good books in these days of universal cheapness ?), no duns at the door, the cupboard well supplied, and a flower of some kind in the room—surely none need deny themselves these elements of pleasure because of poverty.

But why not, besides the beauty of NATURE, have a taste for the beauty of ART? Why not hang up pictures or some pretty ornaments in the room? Ingenious methods have been discovered—some of them very recently—for almost infinitely multiplying works of art, by means of phantom bouquets, glass transparencies, leaf painting, bronze statuaries of wax, lithographs, autotypes, engravings, etc., which render it possible for all to furnish their rooms with some beautiful specimens of art. Any picture that represents a noble thought, that depicts a heroic act, or anything that brings a bit of nature from the fields or street into our room, is a teacher, a means of education and a help to self-culture. It seems to make home more pleasant and attractive. It sweetens domestic life and sheds a grace of beauty about it. It draws the gazer away from mere considerations of self and increases his store of delightful associations with the world without as well as within. The portrait of a great man, for instance, helps us to read his life. It invests him with a personal interest. Looking at his features we feel as if we knew him better and were more closely acquainted with him. The works of nature, before us daily, at our meals and during our leisure hours, unconsciously seem to lift us up and sustain us. They are links that in some way bind us to a higher and nobler nature. They remind us of the observation made by Hazlitt upon a picture, "It looks as if a bit of Heaven were in the room." To our eyes a room always looks unfurnished, no matter how costly and numerous the tables, chairs and ottomans, unless there be something to grace the walls and naked tables.

The art of living may be displayed in many ways. It may

be summed up in the words, "Make the best of everything." Nothing is beneath its care; even common and little things it turns to account. It gives a brightness and grace to the home, and invests nature with new charms. Through it we enjoy the rich man's parks and woods, as if they were our own. We inhale the common air, and bask under the universal sunshine. We glory in the grass, the passing clouds, and the flowers. We love the common earth, and hear joyful voices through all nature. It extends to every kind of social intercourse. It engenders cheerful good will and loving sincerity. By its help we make others happy, and ourselves blessed. We elevate our being and ennoble our lot. We rise above the groveling creatures of earth, and aspire to the Infinite. And thus we link time to eternity, where the true art of living has its final consummation.



Floral Bell.

**I**N the days gone by, the floral bell was considered as being a decoration only appropriate for marriage ceremonies. It was then made of pure white flowers with a very little green for bordering. But in these days, when the confluent tide of æsthetic taste has washed away conventionalisms, it takes its place for any occasion among the many designs for floral decoration. The most effective situation for this design is between portieres, and it should be suspended by a bright-colored ribbon.

In making a floral bell, care must be taken that the form is well filled with forest moss, having been previously soaked in water. Cover the outside of the form with Triumph de Luxemburg Roses, which are of a bright coppery color; line the inside, or bowl, with yellow Tea Roses, and fill the clapper in rusty yellow Immortelles. Or, the outside may be covered with different kinds of flowers, tastefully arranged and harmonizing in color, the inside lined with different shades of Hyacinths, and the bell clapper filled in purple shaded Immortelles. Or, the outside may be covered with scarlet Bouvardias, the bowl lined with white Daisies, and the tongue filled in scarlet Immortelles.

#### Canopy.

A Canopy looks very pretty filled in light green Ivy, or heavy branches of Fern leaves mixed in with Smilax. Place bunches of Hyacinths at the four corners. A Canopy should be suspended above a table, and a bouquet composed of bright flowers may be placed on the table underneath.

#### Four Leaf Clover.

Fill the pedestal with Geranium leaves and Ferns; the four leaves should be filled with bright flowers—Primroses, Hyacinths, Verbenas, pink Daisies, Polyanthus, and such. The order may be reversed: fill the pedestal with scarlet flowers, such as scarlet Verbena, Gladioli and Bouvardia; work the leaves in green, Geranium leaves or Ivy, Smilax, Myrtle; or the pedestal may be filled in white Daisies, which has a very pretty effect standing on a shelf or mantel.

#### Chair.

The back and arms of the chair may be festooned with Smilax, mixed with clusters of yellow rosebuds. Fill the seat with half-blown Roses of various hues. The rungs and legs may be

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covered with Smilax; this should be placed near, or at the foot of Statuary.

#### Horse-Shoe.

Fill with Roses and Rosebuds, all bright flowers; should stand near a door.

#### Swiss Cottage.

Have the pillars festooned in Smilax, with bunches of scarlet Hyacinths. Make a center-piece in the floor of double Petunias, border it around with bright Roses, Pinks, Verbenas, etc., and hang in a window.

#### Butterfly.

The Chrysalis should be filled in black Immortelles, the wings may be filled in almost all bright shades, the prevailing hues being different shades of yellow, filled in any conceivable way which taste and fancy may suggest; this should be placed near window drapery, or under hanging landscapes.

#### Boat.

A boat can be made the most elegant of any parlor design, and a three-master can be made to look exceedingly beautiful. Fill the masts with small flowers of the most gorgeous hues, drape the shrouds with Smilax; fill the deck with full and half-blown Roses, Carnations, Pinks, Pansies, Azaleas, Fuchsias and Forget-me-nots. The sides of the boat may be draped with Smilax or Heliotrope. Long spikes of sweet Mignonette can be draped at the sides to form guards, and it should be set on a mirror pond.

#### Parasol.

The form should be compactly filled with moss and well secured with wire. Lilies of the Valley can be placed around the edge to form a fringe. Fill in the upper part with Tuberoses, Rosebuds, white Camellias, and full-blown Roses, leaving a

depth of three or four inches for a bordering. It may be filled in scarlet Gladiolus, scarlet Bouvardia, or dark lavender Heliotrope, and it should be lined with white flowers. Place a sprig of Hyacinth at the end of each rib, and cover the handle with Smilax.

#### Cradle.

Should be filled with Primroses, Polyanthus, pink Daisies, Sweet Alyssum, Candytuft, etc. This design is pretty and appropriate for a christening.

#### Signet Ring.

Border with small Geranium leaves, fill the ring with pink Daisies, Rosebuds and Carnations and the signet with Hyacinths, Fuchsias, or Heliotrope; this should hang in the window.

#### Cornucopia.

The pedestal may be filled in Smilax or Geranium leaves, with an occasional broken bud or flower thrown in. The horn may be filled in a variety of bright colored flowers. The larger end of the horn may be filled in Heliotrope; this should be placed near a window.

#### Fan.

A floral fan, if made properly, may be carried and used by a lady as any ordinary fan. The form should be of fine wire, and filled with layers, or a sheet of sponge instead of moss. An ivory, or any kind of handle, can be fastened in the form before it is filled. Wet, or rather soak, the sponge and then fill in, commencing at the handle with the smaller flowers, Tuberoses, Tea Rosebuds, pink Daisies and Hyacinths; place a full-blown either white or pink Camellia in the center and form a border of bright colored flowers in scroll work. The sides may contrast in color.

A floral fan may be carried, and is in good taste for marriage ceremonies, full-dress evening parties, balls and operas.

#### Banjo—Piano.

A banjo should be filled with the brightest colored flowers. Piano frame and legs should be filled in green. The small basket which is generally placed on top should be filled in bright flowers, the keys in white Daisies, and the flats and sharps in black Immortelles.

Floral musical designs are more appropriate for musical parties, or for the decoration of a music hall.

#### Floral Bonnet.

A bonnet of natural flowers is the most elegant head-dress a lady can wear at an evening reception, marriage ceremony, or opera.

The form should be almost a network of exceedingly fine wire, and filled with a layer of sponge. It should be lined with sheets of thick tin-foil, to protect the head from moisture.

The form, or foundation, may be filled with Camellias, Tea Roses, Tuberoses, Rosebuds, Primroses, Polyanthus, Corn Flowers and Lilies of the Valley. The stems of the flowers must be cut long enough to fasten in the sponge with pins. There is no definite direction in regard to the arrangement of the flowers, as that must be left to the wearer's taste and judgment.

If a bonnet form cannot be readily obtained, an ordinary bonnet frame covered with lace net can be used, and the flowers may be either sewed or pinned on.

#### Corrage Bouquets.

There are different modes of making these bouquets. For a flat bouquet take a piece of milliners' netting, cut it to the desired shape, have the flowers cut with long stems and fasten

them individually to the netting with a needle and strong thread, taking care to fasten each one as close to the flower as possible, in order to let the stem hang loosely and gracefully; for the stems form almost as prominent a part in the bouquet as the flowers.

For a shoulder bouquet the stems must be left longer, and it is held together by merely tying the stems securely. The stems of a bouquet for the side corsage should be cut still longer than for the shoulder, and held together with ribbon forming loops and ends. These bouquets may be fastened to the corsage with gold safety pins.

Lilies of the Valley, Field Daisies, Polyanthus, German Violets, etc., answer nicely for flat bouquets.

Camellias and Roses should always be used for shoulder and side bouquets, care being taken not to have them full-blown when cut, as the petals are then more apt to fall off.

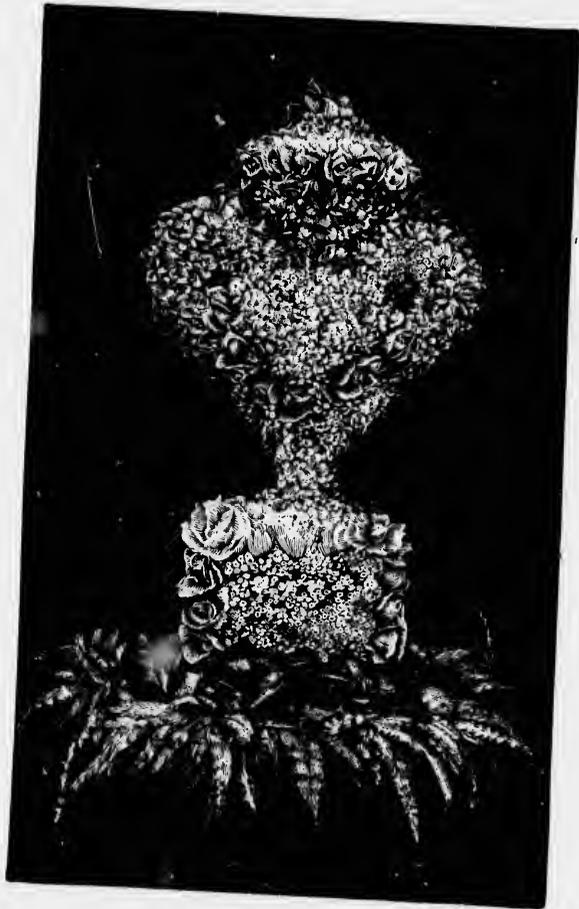
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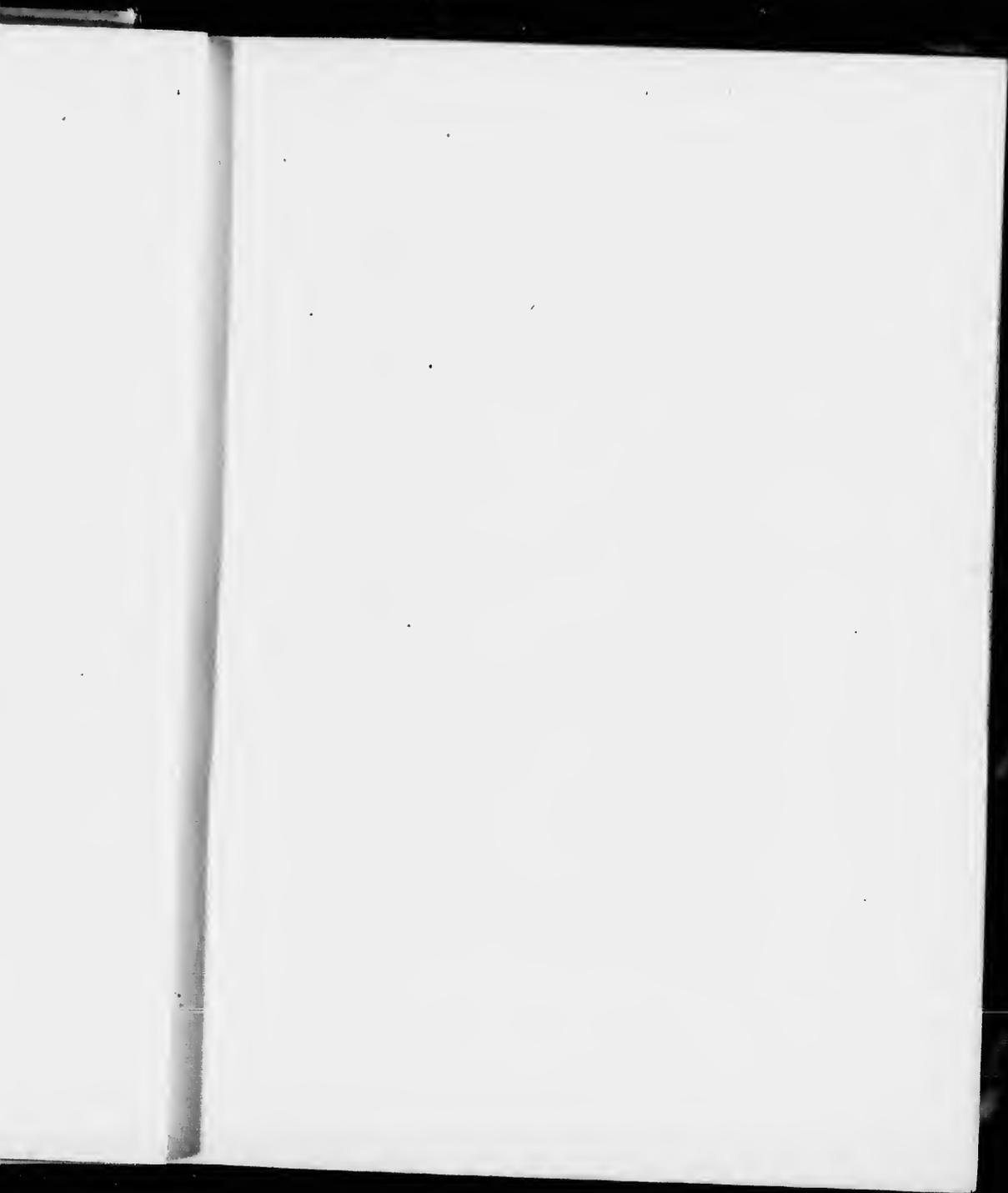
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THIS method is an entirely new feature in the art of preserving natural flowers, and the profession endeavors to keep it a trade secret for its commercial value.

It is lucrative to the artist, and gratifying to those desiring to retain floral mementoes of loving friends.

The chemicals used are inexpensive, and a floral design which requires only two days' steady work to embalm it (after the bleaching process) is worth from thirty-five to fifty dollars.

Embalsmed flowers were never so much in requisition as at the present date. They are used on all occasions. They adorn the banquet, and consecrate the chamber of death.

But the trade of preserving natural flowers lies chiefly in funeral work, as there are very few but love to keep some of the floral offerings to their cherished dead.

Artists in this speciality keep the prices so high that none but the wealthy can afford to have their work done; but if the following instructions are strictly adhered to, the writer vouches there will be no failure, and that an amateur with ordinary

capacity may learn to do the work as well from these *strictly accurate instructions* as by paying fifty dollars (the current charges) to a teacher. The amateur must exercise due care in the bleaching process, for in this lies the great secret of success.

The strength of the solution must be regulated by the color and texture of the flowers. The temperature must be even while the bleaching process is going forward, for a change of temperature, either too warm or too cold, is injurious. If too cold, it retards the progress of bleaching, and the petals become brittle when dried; and if too warm, the petals are liable to macerate. Flowers which are deeply tinted are more difficult to manage, and consequently require more care while undergoing the bleaching process.

Floral emblems, such as crowns, harps, anchors, etc., come in wire forms ready for filling, and may be purchased for a trifle at any first-class wire-work establishment. These forms are first filled with forest moss, and held in place by means of fine wire or cord, which is wound around both moss and form; then they receive a thorough soaking in water immediately before the flowers are set in.

Flowers for this purpose are cut with short stems, and a fine wire is run through the calyx, and wound around a wooden toothpick, which forms the stem, and which gives a firm support to the flower when set in the moss. The green leaves and vines used for bordering a design generally retain their natural stems.

#### Embalming a Floral Cross.

Let us take a cross of funeral flowers for our design, which is composed of all white flowers (except Heliotrope and the green bordering), Camellias, Calla Lilies, Carnations, Roses, Daisies, Feverfew, Candytuft, Sweet Alyssum, Heliotrope, Geranium leaves, and Smilax.

### Taking the Diagram.

Draw the diagram of the cross on a sheet of white paper. Write the name of every flower in its respective position on the diagram, as placed in the floral cross. Specify the number of each different kind of flower; this is not absolutely necessary, but if the artist is deficient in drafting it will be found of good service in refilling the form.

### Bleaching Fluid.

Take 12 oz. chloride of lime; 24 oz. carbonate of soda. Dissolve the soda in six pints of soft warm water and the chloride of lime in four pints of soft cold water; stir well with an iron spoon till all the lumps are dissolved, then let it stand till all the particles of lime have settled upon the bottom of the vessel, mix the two fluids together, let stand for twenty-four hours, and bottle and cork tightly to prevent evaporation; set it away in a cool place, if not wanted for immediate use.

### The Names of the Different Parts of a Flower.

*Calyx*—The cup surrounding the corolla. The parts of a calyx are called sepals.

*Corolla*—The blossom, the parts of which are called petals.

*Stamens*—Are found next within the corolla; they are a number of thread-like organs, the parts of which are the anther, pollen, and filament.

*Pistil*—The central organ of the flower; its parts are the ovary, style and stigma.

*Receptacle*—The receptacle is the end of the stem which supports the other parts or organs of the flower.

The parts of the Calla Lily are the *spatha* and *spadix*. The former is the blossom; the latter is the central organ.

#### How to Bleach the Petals.—*Camellia*.

Begin by taking the *Camellias* out of the form. The tooth-pick and wire must be removed carefully in order not to tear the petals—these appliances can be thrown away, as they are of no further use—have at hand a package of soft white blotting pads. Now remove first the outside row of petals from the *Camellia*, and every petal which is plucked off must be laid smoothly on one of the blotting pads; continue thus, till the pad is filled with a single layer of petals; then take another pad and lay it over the one which is filled, pressing them together gently, tie them together with a cord, and they are ready for the solution. Continue the same till all the *Camellias* are finished.

#### Solution for *Camellia*.

To three pints of soft warm water add one pint of bleaching fluid. Place the pads in a wide-mouthed glass jar, and cover them with the solution to the depth of two inches, cork and keep in a temperature of from 95 to 100 degrees.

When the solution begins to look dark, pour off and add a fresh quantity. Keep in solution thirty hours, then take them out of the jar, have a large basin filled with tepid water, loosen the cords and separate the pads gently, so as not to injure the petals, throw the pads with the petals adhering to them in the water. In a short time the petals will separate from the pads and float on the surface of the water. The pads can then be taken out and dried for further use. The petals may be left in this water for some hours, until they are thoroughly rinsed and free from chlorine.

#### Final Rinsing Water.

Take 6 ozs. of borax and 10 ozs. of alum, dissolve in two quarts of boiling water. To a gallon of pure cold water add one pint of this solution and pour into some vessel large enough to

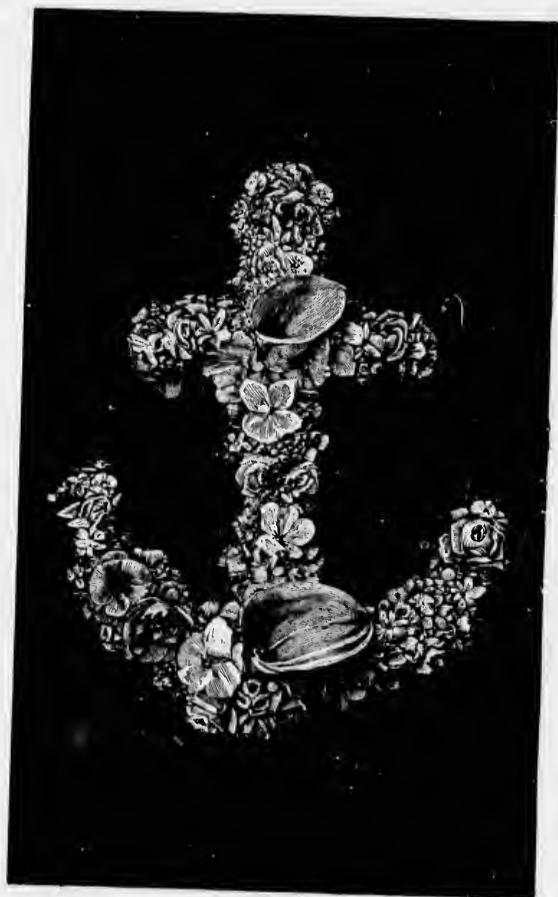
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give it plenty of surface; then take the petals out of the basin, which is done by placing the palm of the hand under them in the water; raise them up and let drain a little. Then immerse the hand in the vessel of solution, and all the petals will rise separately to the surface. Let them remain in this solution for ten hours, dipping them under occasionally. Petals done in this way will never turn yellow.

The petals being thoroughly bleached, are ready for pressing and drying. They should be taken out of the vessel separately. It is done in this way: Place an ivory paper-cutter underneath a petal, let it drain a little, then lay it on a thick blotting pad, smoothing it out with the paper-cutter till it is entirely free from wrinkles; continue thus till the pad is filled, care being taken that the petals do not touch each other, lay another blotting pad over this and set it aside till all are finished, press the pads in a letter press, take them out and lay between the covers of a heavy book for twenty-four hours; they are then ready for use. Petals done in this way look as if they were newly plucked from the flower.

#### Process for Calla Lily.

To three pints of warm water add one and one-half pints of bleaching fluid.

Remove the spatha from the spadix carefully with the blade of a penknife. Lay the spatha smoothly on the blotting pad and lay another pad over it, then proceed as in bleaching the Camellias. A Calla requires forty-eight hours to bleach, and the fluid must be changed twice. Then rinse in tepid water, and finally in the borax and alum solution. Press and dry as described for Camellias.

#### Process for Carnations.

Carnations require some care in handling on account of their quilled and ragged edges, which make them more liable to be

torn. They should be smoothed out on the blotting pad with a camel's hair brush, and some extra care should be given in tying the pads together.

To three pints of warm water add one-half pint of bleaching fluid; change solution twice. They will bleach in thirty hours; then proceed as formerly directed, with the exception of smoothing out the petals on the drying pad with a camel's hair brush instead of the paper-cutter. Carnations should be thoroughly rinsed to free them from chlorine before drying.

#### Process for Roses.

To three pints of warm water add one and one-third pints of bleaching fluid. Prepare the petals as formerly directed, and leave in solution twenty-four hours. Change the solution once, then proceed with the rinsing and drying as with Camellias.

#### Process for Daisies.

Take two quarts of the finest silver sand (it must be perfectly dry); to this add 6 ozs. of finely pulverized alum and 4 ozs. of best plaster of Paris.

First mix the alum and plaster together thoroughly before adding them to the sand, then mix well with the sand and sift through a fine wire screen or sieve. Take a paper box, 6 x 8 inches, cover the bottom of it to the depth of several inches with this mixture and place the Daisies in it, stems downward—the sand must have depth enough to hold the flower firmly. Fill the box with the flowers, leaving plenty of space between each one; then sift the mixture over them gently, so as not to crush any of the petals, till all the flowers are buried. Cover the box and put it carefully in some place where it is sure not to be disturbed; keep it in a temperature of 90 to 95, and in seventy-two hours the flowers will be ready to take out. Open the box and

hold it in a slanting position in order to let enough of the mixture run out to expose the flowers; then with the finger and thumb draw the flower up by the stem, turn it upside down and shake it gently to free it from the mixture. Should any of the particles still adhere to it, blow them off with the breath. Daisies done in this way look as clear and fresh as when cut.

The alum toughens and keeps the petals flexible. The plaster of Paris preserves their original whiteness. The sand draws the moisture out of the flower, and by this means preserves it.

Flowers should be free from moisture and perfectly dry when placed in this mixture, *i. e.*, free from dew or rain. The success of the preserving depends greatly on the freshness and development of the flower. Care must be given to the temperature of the locality where the flowers are placed; if too warm it is apt to discolor the flower, and if too cold the receptacle is liable to rot, and therefore injure the flower.

#### Process for Feverfew.

To two quarts of silver sand add 4 ozs. finely pulverized alum, and 2 ozs. best plaster of Paris. Mix well together, sift, and proceed as with Daisies. Temperature of room, 90 degrees; should be kept in the mixture sixty hours.

#### Process for Candytuft.

To two quarts of silver sand add 3 ozs. finely pulverized alum and 1 oz. of plaster of Paris. Mix well together, sift, and follow the given directions. They must be placed in the mixture carefully, as the flowers are very small and tender; plenty of room should be given to each cluster, they being very easily bruised. Temperature, from 85 to 90 degrees. Leave in the mixture forty-eight hours.

*Process for Sweet Alyssum.*

Sweet Alyssum and Candytuft being of the same color and texture require the same process, and both require a dexterous hand in placing them in and taking them out of the mixture.

*Process for Heliotrope (Glorij de Masette).*

To two quarts of silver sand add 2 ozs. of finely pulverized alum and 2 ozs. of pulverized carbonate of ammonia. Pour a deep layer of the mixture in the box, deep enough to cover the stems and form a surface to support the base of the flower; on this spread the sprigs of the cluster, then sprinkle the mixture over them carefully in order not to crumple any of the florets. Temperature, 80 to 90 degrees. Leave in the mixture forty-eight hours. When taken out, the flower looks fresh and retains its natural tint.

*Process for (Rose) Geranium Leaves.*

To two quarts of sand add 5 ozs. pulverized alum. Mix well together and sift. Pour a deep layer in the bottom of the box and lay the leaves evenly on it, and cover them to the depth of several inches. Temperature of the room, 90 to 95 degrees. Leave them fifty hours in the mixture. When taken out, should any of the leaves look rusty, through causes over which the artist has no control, such as insect stings—which rust the leaf in the preserving process—and also in case of the leaf being too long cut before commencing to preserve it, it can be remedied by rubbing it with green down, or with a camel's hair brush dipped in Chrome Green.

*Process for Smilax.*

This is one of the easiest plants to preserve in the whole floral catalogue. Its hard texture adapts it particularly to sand pre-

servicing. All that is necessary is to lay it evenly in pure silver sand, give it a temperature of 90 degrees, and in thirty hours it will be ready for use.

#### Process for the Calla Spadix.

To one pint of sand add 1 oz. of pulverized alum; mix well, pour in a small box, and embed the spadix in it. Leave in the mixture seventy-two hours, at a temperature of 100 degrees.

#### Embalming the Flowers.

Now that all this collection is bleached and preserved, the next that follows is to embalm them. The materials required are: A table, box of fine toothpicks, rubber roller, moulding or curling pins (these are long steel needles of different sizes, with bead heads), a pair of small scissors, a penknife, a glass of cold water, packages of the very best transparent wax, dry and wet paints, different shades of down, sheets of white paper, and the collection of preserved leaves and petals.

#### Embalming the Camellia.

Begin by undoing one of the Camellia pads. Lay a sheet of transparent wax on a sheet of white paper and with the point of the penknife remove one of the petals from the pad and lay it smoothly on the sheet of wax; continue in this way till the sheet is filled, taking care to leave space enough between each petal for a margin. Lay another sheet of wax over this one which is filled, and roll it lightly with the rubber roller, to make the wax and petals adhere; this method facilitates the work in cutting. Dip the scissors in the water to prevent the wax from sticking to them, and cut the wax around each petal, leaving a small margin. When the petals are all cut, moisten the palm of the hand (this is to prevent the wax from adhering to it), lay the petal in

it, and with the curling pin mould it to its natural shape and curve around the margin.

When the petals are all prepared, take a piece of wax and roll it around the point of a toothpick (this forms the receptacle of the flower), pressing it firmly with the finger and thumb; then take a narrow strip of wax and cut it into fine thread-like pieces, roll this also around the end of the toothpick to represent stamens. Now begin by first placing the smallest petals around the stamens, pressing them firmly between the finger and thumb; continue thus, making every tier of petals larger, till the last row is on. Take a tinting brush and tint the stamens with Chrome Yellow.

#### Embalming the Calla.

Take a Calla mould, and after dipping it in warm water, cover it with a double sheet of creamy transparent wax; on this lay the bleached spatha, pressing it gently on the wax; over the spatha lay another sheet of single creamy transparent wax, shave around the edges with a penknife, dip the end of the finger and thumb in water and press the edges evenly around the mould, turn the mould over and let it (the Calla) drop out in the palm. Fasten the spadix to a toothpick with a piece of wax, roll the spatha around the spadix at the receptacle, and tint it very lightly with Chrome Green.

#### Embalming the Carnation.

A Carnation requires great care in manipulation, especially in taking it off the blotting pad, as it is very easily torn. Mould the petals one at a time. Great care must be given to curling the edges, for in this lies the beauty of the Carnation. Rub the petal with white down (this will make the wax more pliable), then roll the curling pin backwards and forwards over it till the edge of the petal becomes frilled, and press the pin against it to

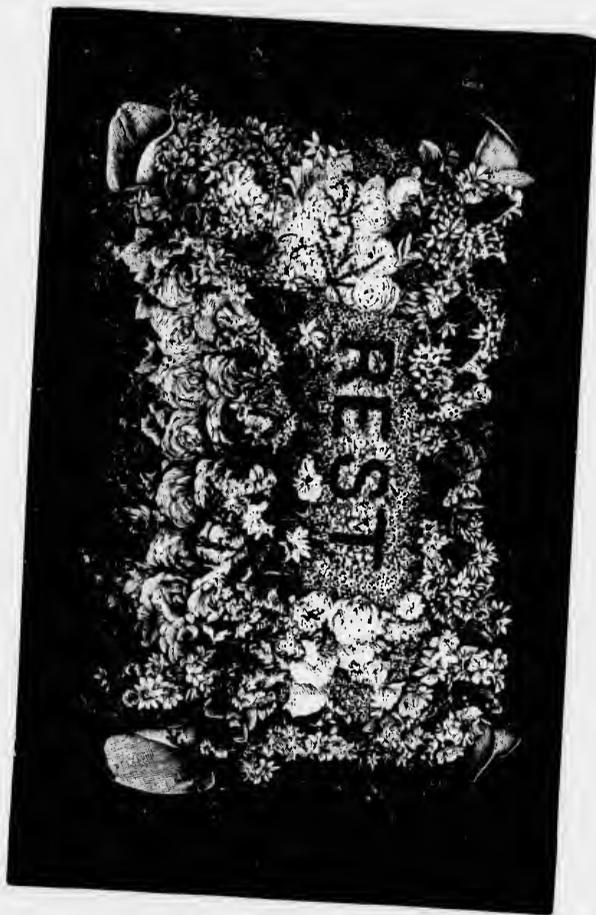
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form the ridges. Wrap the end of the toothpick in a piece of wax to form the receptacle, cut a narrow strip of wax in thread-like shreds to form the stamens and two long narrow strips to form the pointal, attach this to the receptacle, and then put on the petals, beginning with the narrowest. It is a great assistance to have the natural flower to copy from.

#### Embalming the Nose.

See directions for Camellia.

#### Refilling the Form—Materials Required.

A box frame, glue-pot and brush, paper of pins, paper of tacks and tack hammer, diagram of the cross, and table.

For funeral flowers the frame should be lined with either black velvet or white satin, and should be of sufficient depth to allow plenty of space between the glass and the flowers.

Lay the frame on its back on the table. Fasten the form evenly and firmly with small nails or tacks to the back of the frame. The wires are close enough in the form to hold the heads of the tacks, or it may be fastened to the frame with strong glue; but nailing it is the safest way.

Pin the diagram in a convenient place, where it can be easily referred to.

Before refilling the form, care must be taken that the moss is thoroughly dry. The marks of the toothpicks can be plainly seen in it, and almost every large flower can be replaced where it was extracted.

Begin by putting the larger flowers in first. Have the glue melted and ready for use. With a small brush apply a small portion of the glue to the base of the flower, and also to a portion of the toothpick, and place the flower in its proper place in the moss. The principal and most conspicuous flowers should

be placed in first, then follow the small ones, and lastly the bordering.

Glue the stem of the Geranium leaf, and with the aid of the steel punch reset it. The Smilax can be held with fine hairpins, by catching the vine between the prongs and pinning it down tightly in the moss and adding a very little glue. The Daisies must be fastened to the moss with common pins.

Wash the glass with alcohol, slide in the frame, and the work is finished. *This is the most reliable way of embalming natural flowers. Flowers done in this way may be warranted to keep their colors for centuries.*

Supposing there is a design to embalm on which there is an inscription in Greek, Hebrew, or in characters with which the artist is not familiar, and might find a difficulty in refilling, the trouble is easily overcome. Take a sheet of tracing paper and lay it smoothly over the inscription, holding it down with four curling pins. Then with a tracing pencil trace the characters accurately on the paper. In refilling the form place this copy on the moss in the exact place of the original inscription and fill in through the paper. Such inscriptions should be refilled before any of the other flowers are put in.

All kinds of colored, as well as white flowers, may be preserved, but they require a different treatment, which will now be considered in giving directions for embalming a floral parasol composed of colored flowers. The artist will do well to attain some proficiency in preserving the white flowers before attempting the colored ones, as these require great care in manipulating and tinting.

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The Art of Embalming a Floral  
Parasol in Colored Flowers.

**F**OR instruction let us take a floral parasol containing the following choice flowers:  
Gen. Jacqueminot Rose, brilliant crimson; Marshal Neil Rose, intense yellow; Princess Adelaide (Moss) Rose, bright pink; Camellia (Elata), dark crimson; Camellia (Alberti), light rose; Pansy (Emperor William), indigo; Pansy (Beauty of St. Osyth), deep black purple; Pansy, sky blue; Pansy, purple and yellow; Double Pink (Dianthus), crimson purple.

*Bleaching Fluid.*

For colored flowers the best bleaching agents are *Fluorine* and *Eau-de-Javelle*, which can be obtained at any first-class drug store, in solution ready for use.

*General Directions.*

*Jacqueminot Rose.*

Strip off all the petals carefully, lay them evenly on the blotting pad, care being taken to give each petal plenty of room; this pad being filled, lay another over it and fasten the two together with tape; then prepare the solution.

*Bleaching Process.*—To one pint of warm water add two parts of Fluorine; set the pads in a glass jar, with solution enough to cover them to the depth of several inches; cork the jar tightly and set in a temperature of 95 degrees. Let remain till solution turns almost black (twelve hours should accomplish this); then pour the fluid off and replace with a solution of two parts warm water and one part Eau-de-Javelle; let remain in this twenty-four hours, at a temperature of 100 degrees.

*Floating Process.*—Take the pads from the solution, undo the tapes, and put the pads in a large basin, filled with tepid water. The petals will now separate from the pads and will float without curling on the surface of the water. The pads may now be taken out of the water and can be dried for further use. Let the petals remain in the water for twelve hours, then take them out. Make a strong solution of one part borax and one part alum, pour this solution into a basin of pure cold water, put the petals in this and let them float on its surface for several days, until they are of a pure snowy whiteness.

*Drying and Pressing Process.*—Have medium-sized blotting pads, cover one side with a sheet of tracing paper the same size, then with an ivory paper knife take up one petal at a time and lay it smoothly on the blotter; over this place the second blotting pad, continue thus till all the petals are on the blotters, then press and dry them in a letter press or between the covers of heavy books, care being taken to keep them in a dry place.

*Tinting the Petals.*—The next operation is tinting or painting the petals. Before removing the petals from off the blotters, tint their upper sides with Crimson Lake, tube colors, and when dry remove them with the point of a penknife, turn them over and tint the other side. If not wanted for immediate use, lay them away in a box labeled "Jacqueminot Petals."

*Embalming Process.*—Take a sheet of superfine transparent sheet wax and cover the dull side of it with the tinted petals,

care being taken to leave room enough between the petals for cutting, lay another waxen sheet over this and press together with the palms of the hands; then cut them out and mould gently around the margin with the bead end of the curling pin, to make the wax adhere. Next take a piece of wire several inches in length, twist one end of it around a knob of wax, cover this knob with a piece of wax and dip it in thin gum water, then sprinkle it with yellow flock, and the heart, or receptacle, of the flower is finished. The smaller petals may now be applied; press them firmly against the under side of the receptacle, followed by the larger ones, and so on till the flower is finished; then twist the wire firmly around the toothpick.

*Marshal Neil Rose.*

*Bleaching Process.*—Prepare the petals as directed for the Jacqueminot Rose; then to one part of water add one part of Fluorine; let remain in solution from eight to ten hours, at a temperature of 90 degrees; then pour the solution off and replace with one part water and two parts Eau-de-Javelle; let remain in this solution twenty-four hours, at a temperature of 100 degrees.

*Floating Process.*—Care must be exercised in manipulating these petals, as they are very tender. Let them float on the first water six or seven hours, make the second solution one part water and one part borax, and alum; leave in this twenty-four hours, then press and dry for use.

*Tinting Process.*—Tint the petals before removing from the blotter with No. 1 Chrome Yellow, tube colors; when dry, turn the tinted side underneath and tint the other side; set them in a place free from dust to dry.

*Embalming Process.*—The best of transparent wax should be used for this Rose. Cut the wax large enough to leave a margin beyond the petal, roll and mould slowly and evenly,

giving the larger petals the bowl and curl of the natural ones. Cover a piece of wire with wax, form a knob at one end, cover this knob with green flock and lay on the petals in such a manner as to give it the soft and fluffy appearance peculiar to the Marshal Neil; twist the wire firmly around the toothpick, and the flower is finished.

*Princess Adelaide Moss Rose.*

*Bleaching Process.*—Remove the moss carefully from around the petals, and prepare them on the blotters as directed; then immerse in solution, two parts water and three parts Fluorine; let remain for twelve hours, at a temperature of 95 degrees; pour off this solution, and replace with one part water and two parts Eau-de-Javelle; let remain for twenty-four hours, at a temperature of 100 degrees.

*Floating Process.*—The petals should be allowed to float on the water two or three days; have the borax and alum solution quite strong, and let remain in this also for two or three days, or a longer period will not injure the petals of this Rose. Press and dry as previously directed.

*Tinting Process.*—Before removing the petals from the blotter, tint them deeply with Rose Bloom, in tube paints, or in dry colors mixed in gum water—but the former is much to be preferred—turn over with the blade of a penknife, taking care not to tear the petal in the operation, and tint the other side.

*Embalming Process.*—Lay the petals smoothly on the transparent wax and cut out the petals, leaving a very little margin; mould them easily and smoothly on the palm of the hand, making the extreme edges slightly ruffled; wax the wire, attach the waxen knob to one end and dip it in Chrome Yellow, apply the petals and set them on quite closely and compactly. The Rose is now ready for the moss.

*Process for Moss.*—Pulverize 1 oz. of carbonate of ammonia and 1 oz. of alum; add this to a quart of sand and bury the moss in it; let remain for twenty-four hours, at a temperature of 90 degrees. It should stand for a day after taking it out of the mixture before using. The outside of the Princess Adelaide Rose is entirely covered; the moss can be set on with mucilage. Twist the wire stem firmly around the toothpick, and the flower is finished.

#### *Camellia (Glata).*

*Bleaching Process.*—Prepare the petals as directed. To one part of warm water add two parts of Fluorine; leave in solution eighteen hours or more, until the fluid looks black; then pour off and replace with two parts Eau-de-Javelle and one part water; leave in solution twenty-four hours at a temperature of 100 degrees.

*Floating Process.*—Leave the petals in the tepid water for twelve hours, then float them in the alum and borax solution for several days if need be, until they become of a pure milky whiteness. Then press and dry for use as directed.

*Tinting Process.*—Tint the petals before removing from the blotters, with Crimson Lake, tube colors; this must be done with a soft camel's hair brush. When one side of the petals has dried, turn them over and tint the other side.

*Embalming Process.*—Lay the petals smoothly on a moderately thick sheet of transparent wax, then lay a thinner sheet over this and roll gently with the rubber roller, cut out the petals and mould into shape; wax the stem wire; apply a waxen knob to one end, which is to be dipped in Chrome Yellow; attach the petals around this in their natural order, twist the stem wire around the toothpick, and the Camellia is finished.

*Camellia (Alberti).*

*Bleaching Process.*—Having prepared the petals as directed, to two parts warm water add three parts Fluorine: let remain in this solution twelve hours, at a temperature of 90 degrees, then pour off the fluid and replace with a solution of one part water and two parts Eau-de-Javelle. Let remain in this twenty-four hours, at a temperature of 100 degrees.

*Floating Process.*—Let the petals float on the surface of the tepid water from twelve to eighteen hours, then in the alum water from two to three days, until the petals have become of a pure white color; then press and dry as directed.

*Tinting Process.*—Before removing the petals from off the blotters, with a soft camel's hair brush (tinting brush) tint the petals; tint darker in the center and slide lighter towards the margin; when dry, turn over and tint the other side the same. Use Rose Madder, tube No. 2.

*Embalming Process.*—Lay the petals smoothly between two sheets of transparent wax of medium thickness, roll together with the rubber roller, then cut the petals with a sharp pair of scissors and mould into shape; wax the stem-wire; form the receptacle, or knob, at one end, and dip it in Chrome Yellow; then apply the petals in their natural order, and fasten each by the stem-wire to the toothpick.

*Pansy (Emperor William).*

*Bleaching Process.*—Take the petals apart carefully and lay them smoothly on the blotter, immerse them in a solution of one part warm water and three parts Fluorine, let them remain eighteen hours, at a temperature of 95 degrees; pour this off and pour on a fresh quantity, and let remain six hours more; then replace with one part water and three parts Eau-de-Javelle and let remain in this from eighteen to twenty-four hours, at a temperature of 100 degrees.

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*Floating Process.*—Leave the petals in the tepid water from twelve to eighteen hours, and in the alum and borax solution from two to three days. Press and dry as directed.

*Tinting Process.*—Before removing the petals from off the blotters, tint the center of each with lampblack and the margin with indigo, care being taken to shade the one into the other. Only one side of the Pansy petal need be painted.

*Embalming Process.*—Place the petals between the two sheets of transparent wax, press between the palms of the hands, or roll with the rubber roller, cut the petals and mould into shape with the bead end of the curling pin; wax the stem-wire and place a very small knob of wax on one end; then dip in Crimson Lake (powder), and apply the petals. Fasten the stem-wire firmly around the toothpick.

Pansy (Beauty of St. Olyth).

*Bleaching Process.*—Prepare the petals as directed; immerse them in pure Fluorine, let them remain for ten hours, at a temperature of 95 degrees. If the petals still look black, which may be seen through the glass jar, pour off the fluid and add fresh. Let them now remain from six to ten hours more, then pour off the fluid and replace with clear Eau-de-Javelle; let remain in this from twenty-four to thirty hours, at a temperature of 100 degrees. This is one of the most difficult to bleach of the whole Pansy family.

*Floating Process.*—Float the petals on the tepid water for about ten hours, then transfer into the alum and borax water, let remain there for several days, then press and dry for use.

*Tinting Process.*—Before removing the petals from the blotter, tint them with dark purple Lake, one side only.

*Embalming Process.*—Lay the petals between the two sheets of transparent wax and proceed as directed for the Pansy (Emperor William).

## Pansy (Shy Blue).

*Bleaching Process.*—Prepare the petals on the blotters as directed, then cover them to the depth of an inch with one part warm water and one part Fluorine; let stand for ten hours in the fluid, at a temperature of 95 degrees; then replace with one part water and one part Eau-de-Javelle; let stand in this solution from eighteen to twenty-four hours.

*Floating Process.*—Float the petals on the warm water till they look clear and free from streaks, then transfer to the borax and alum solution and let them remain for several days; press and dry as directed.

*Tinting Process.*—Tint the petals, before removing, with Cerulean Blue; on one side only.

*Embalming Process.*—Proceed as directed, and follow the instructions given for embalming the Pansy.

## Pansy (Purple and Yellow).

*Bleaching Process.*—Prepare the petals as directed for the Pansy and immerse in a solution of one part warm water and two parts Fluorine; let remain for ten or twelve hours, at a temperature of 95 degrees; then replace with one part water and two parts Eau-de-Javelle; let remain in this solution for twenty-four or twenty-six hours, at a temperature of 100 degrees.

*Floating Process.*—Float the petals on the warm water for ten or twelve hours, then remove them to the alum and borax solution and let them float for several days until they are perfectly clear; then press and dry as directed.

*Tinting Process.*—Tint the petals while on the blotters with Royal Purple and Cadmium Yellow.

*Embalming Process.*—Follow the directions for embalming the Pansy.

Double Pink (Dianthus).

*Bleaching Process.*—Smooth the petals out carefully on the blotter with a camel's hair pencil, immerse them in a solution of two parts Fluorine and one part warm water; let stand from twelve to sixteen hours, at a temperature of 95 degrees; then transfer into solution of one part water and two parts Eau-de-Javelle; let remain in this from twenty to twenty-four hours, at a temperature of 100 degrees.

*Floating Process.*—Float the petals as previously directed, press and dry the same.

*Tinting Process.*—Mix equal portions of Crimson Lake and Royal Purple, tint the petals on both sides, giving close attention to the markings and shadings of the natural petal.

*Embalming Process.*—For embalming the Pink some artists prefer to cut the wax with a tin pink cutter; insert the natural petal between and mould gently into shape, taking care not to tear the ragged edges. Wax the stem-wire, and place the waxen knob at one end; to this knob stick the two pointals, which may be made of brown wax; place the petals around this in their natural order, and fasten the wire around the toothpick.

To Fill the Form.

Fill in the ribs of the parasol with forest moss, very compactly and well stayed with wire.

Begin from the top, around the shank point, to set in the flowers, which should be the smaller ones—the Pansies and Pinks. Set them in promiscuously to the depth of several inches, then begin to add in the larger flowers, blending the different colors according to taste, and ending with a border of the moss or Gen. Jacqueminot Rose, then add a heavy fringe of Pampas grass.

A saun ribbon of any bright color tied at the point of the shank or handle, and again tied into a bow and fastened into the

flowers half way down, by means of a hair-pin, the ends being left to droop down on the fringe loosely, adds very much to the beauty of the design. The lining, or inside, of the parasol should be done in the different shades of Pansies.

The design shown in the illustration may be put in a box frame, or placed under an oval glass globe.

This is the proper method of embalming flowers, and if done according to directions they will last for an indefinite period of time. All petals done in this way must be painted of a much deeper tint than the natural, on account of being covered with the wax, which causes the petal through the wax to appear one shade lighter than the natural tint. Some artists, in order to facilitate labor, tint the petals after they are waxed; but the effect is not so satisfactory, nor the tinting so lasting.

All species of colored flowers may be preserved by this method, but the artist must use judgment in regard to the color and texture of the flower, and use the strengths of the different chemical agents accordingly.

As these two chemicals for preserving colored flowers have hitherto been a trade secret, and have been used only by experienced artists, it may be well for the amateur to confine herself, in the first few attempts at petal bleaching, to Labarraque's or Powers & Wightman's bleaching fluids, which can be used without being diluted, under the same directions in regard to time and temperature, as the combined chemicals, Fluorine and Eau-de-Javelle.

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### New Method.



IN illustrating this method we will take a floral horse-shoe containing the following flowers: Forget-me-not, German Violet, Azalea, Passion Flower, Oleander, Abutilon, Wild Rose, Pansy, Petunia, Salvia and Convolvulus.

#### Forget-Me-Not (*Myosotis*).

This favorite little flower must be handled with much care. Have at hand two thick blotting pads, separate the flower from the receptacle, keeping it whole if possible, and lay it on the pad, face upwards. Take a soft camel's hair brush and dip it in a solution of three parts soft water, one part ox gall and a few drops of spirits ammonia, and moisten the surface of each floret; next, lay the other blotter over it, and with a moderately hot smoothing-iron press the pads, letting the iron rest upon them for a few minutes till all the moisture is extracted from the flower; remove the upper blotter and the flower is ready for use. If the iron is in proper heat and the work done artistically, the flower will possess its natural hue and texture.

The next operation is to *stay* the flower. Lay it on a sheet

of wax (Cerulean Blue) and cut the wax around the edge of the flower, giving it a small margin; press the flower and wax together between the finger and thumb, and mould it gently into shape with the steel end of the curling pin. Take a piece of wire, two inches in length, cover it with a thin piece of wax, bend one end of it around a small knob of wax, and to this knob fasten the flower with the steel end of the moulding pin. Make all the flowers in the same manner and group them into clusters of eight or ten; finish by twisting all the wires together and fastening them to the toothpick.

*Directions for Preserving the Forget-Me-Not Leaf.*

The leaf of the Forget-me-not, and almost all kinds of leaves, may be preserved in the following manner: Take one ounce of gum sandarac, half an ounce of gum mastic, and a piece of camphor gum the size of a hazel-nut. Pulverize and mix these together and put it into a long, narrow bottle; pour in a pint of first proof alcohol and after shaking, heat it mildly. After the ingredients have become thoroughly dissolved, let the bottle stand quietly until the dregs have settled at the bottom, when the clear portion should be poured off. This will soon assume the appearance and qualities of a transparent varnish.

Lay the leaves on a table, or some smooth surface, right side uppermost, and with a camel's hair brush apply a thin coat to the surface of each, when they can be set away in a place free from dust to dry. When perfectly dry, put them singly on a clean blotting pad, put another pad on the top of this and press with a hot smoothing-iron. Stay the back of each leaf with wax, the same shade as the back of the leaf—the back, or under surface, of almost every leaf is a shade or so lighter than the upper surface—and add one or two to the spray.

*German Violets.*

Separate each flower from the receptacle and flatten it gently on the blotter until the blotter is filled; moisten each violet with a soft camel's hair brush, dipped in a solution of two parts soft water, three parts ox gall, and ten or twelve drops of spirits ammonia; then overlay with another blotter and press with a moderately hot iron. If the color should change any on account of the solution being too strong, or the iron too hot, the petals may be tinted lightly with Purple Lake (tube colors). Take a sheet of wax (violet purple) and lay the violets, face upwards, evenly on its surface—care being taken to cut the wax a little smaller than the flower. Press the wax and flower gently together between the finger and thumb, place it in the palm of the hand, flower under, and with the steel end of the curling pin mould it into shape. Care must be taken that the natural petals are not torn in the moulding. Take a wire two inches in length and cover it with wax, form a knob at one end, and to this knob fasten the violet with the curling pin, and continue in this way till there is enough made to form a cluster; twist the wires together and fasten to the toothpick. The leaf should be made according to the given directions.

*Azalea.*

Strip the petals from the receptacle and lay them smoothly on the blotter. The stamens need not be saved, as it is better to replace them with waxen ones. When the blotter is filled with the petals, moisten them with a solution of one part ox gall, two parts water, and a few drops ammonia; then lay the other blotter over this and press with a warm iron, care being taken not to have the iron too warm, as the texture of the Azalea is very delicate.

Lay the petals smoothly over a pink sheet of single wax and cut the waxen petal a trifle smaller than the natural one, press

both together with the finger and thumb and bend them slowly together, keeping the curling pin on the waxen side. Care must be taken not to press too hard for fear of tearing the natural petal. When the petals are all moulded, take a narrow strip of wax and cut it into six shreds; fasten these to the end of a toothpick with a piece of wax, dip them in Chrome Yellow powder, lay the petals on in their natural order, and preserve the leaf as directed.

#### *Oleander (Nerium).*

Strip the petals off carefully and lay them on the blotter, face or right side uppermost. With a soft camel's hair brush moisten their surface with a solution of two parts ox gall, one part water and ten drops of spirits ammonia; with a moderately hot iron press the pads slightly and remove them to another dry blotter; again press with the same degree of heat. Petals which are fleshy do not press readily, and sometimes require to be transferred to different blotters several times before the moisture is thoroughly extracted.

Take a piece of pink staying wax, lay the petals smoothly on the sheet, cut the wax smaller than the natural petal, press between the finger and thumb and mould into shape, taking care to always mould over the waxen side. Cut a narrow strip of white wax into fine shreds, for stamens, dip the ends into Chrome Yellow, wind it around the end of the toothpick and attach the petals. Cut a few pink strips of wax and notch them with the scissors to look ragged; then stick them in the center to represent the crown of torn appendages. Preserve the leaf as directed.

#### *Passion Flower.*

The petals must be cut with a penknife from the heart of the flower, as they adhere firmly to it and cannot be removed by the fingers without tearing.

Lay the petals evenly on the blotting pad, moisten their surface with a solution of two parts clear ox gall, one part water, and fifteen drops of spirits ammonia, and press quickly with a hot iron.

For the *passiflora carulea* use staying wax one shade from white, or the palest shade in Cerulean Blue, for the petals, which must be moulded very carefully. Take a strip of wax an inch in width and several inches in length, lay it on some smooth surface and with a sharp penknife notch the extreme edge on one side; then roll evenly around the end of a toothpick, taking care to keep the coils perfectly even and compact, to look as much as possible like the natural heart of the flower. If the notches have closed any in coiling, separate them with the point of the curling pin and dip in Burnt Umber (powder).

Next take the finest silk wire, cut it into lengths corresponding to the natural spikes of the flower, cover them with several thicknesses of wax and roll them between the palms to give them a cylindrical form; dip them in Raw Sienna, fasten to the heart of the flower, attach the petals evenly, and the flower is finished.

The natural heart and spikes of the Passion Flower may be preserved in sand and used, but the waxen heart and spikes are more durable in this method of preserving natural flowers.

#### Abutilon.

The petals must be separated from the receptacle with a knife or sharp scissors, and the bowl slit, in order to let the petals lie evenly on the pad. Then take a solution of one part clear ox gall and three parts water, moisten the petals and press with a warm iron. Cut the wax to the petal while flattened out, draw the slit together, and mould in the form of the bowl with the bead end of the curling pin. If the artist wishes the Abutilon to retain its bell shape, the inside of the petal must be

stayed and moulded to the natural shape; but if a blown shape is desired, then the outside of the petal must be stayed and moulded as for a full open flower.

Place a small knob of wax on the end of the toothpick and mould the petals to it with the curling pin, roll the petals back with the steel end of the pin, if for a blown Abutilon, and overlap them if for a bell shape.

#### Wild Rose.

The petals of the Wild Rose are exceedingly delicate and require great care in handling. Lay them smoothly on the blotter and moisten slightly with sulphuric ether and press quickly with a hot iron; if the petals look dim, tint slightly with Rose Madder. Stay with rose colored wax, care being taken not to tear the petals in moulding. Cut a narrow strip of wax and make one edge into short fine shreds, dip into Chrome Yellow powder, coil around the point of a toothpick to form the stamens, fasten the petals to the stamens, being careful to give them the natural outward curve, and preserve the leaf as directed.

#### Pansy.

This is one of the easiest flowers to manage, and is well adapted for this method of preserving natural flowers. Lay the Pansy smoothly on the blotter without separating the petals, but removing the stem; moisten with pure ox gall mixed with a few drops of spirits ammonia, and press slowly with a moderately hot iron. The petals must be stayed with wax of corresponding color. If the Pansy is brown, the wax must be brown; if a yellow, the wax must be yellow; if purple, the wax must be purple; if variegated, the wax must correspond to the prevailing color.

After the flower has been pressed, should the petals adhere to each other, they can easily be separated with the point of the curling pin, care being taken not to tear them, and the wax can easily be moulded on each separate petal without much inconvenience. Place a small knob of wax on the end of the toothpick and fasten the flower in the center of the eye to it. If it is desired to form them into bunches or clusters the Pansies may be attached to wires and then fastened to the toothpick.

#### *Petunia (Single).*

Slit the *Petunia* on the seam (or it may be slit into five different parts, and after these different parts have been stayed by the proper shade of wax they can be joined together without the seams being detected), and smooth the petals out on the blotter. Then moisten sparingly with a solution of one part ox gall, two parts water, and a few drops of spirits ammonia, and press gently with a moderately hot iron. Stay with wax the same shade as the flower, and curve the edges outward with the steel end of the curling pin. Cut several long thin shreds of wax for the stamens, roll a piece of wax around the end of the toothpick, press the stamens on with the finger and thumb, and then run it down through the throat of the *Petunia* and press the whole together with the finger and thumb, or with the bead end of the moulding pin.

#### *Morning Glory (Convolvulus).*

Same directions as for the *Petunia*.

#### *Salvia.*

Strip the petals from the spikes and lay them smoothly on the blotter if possible, regardless which side is uppermost, as the petal of the *Salvia* is the same on both sides. Moisten with a few drops of diluted spirits ammonia and stay with crimson

wax. Cover a piece of wire several inches in length with Chrome Green wax, and set the flowers at proper distances from each other along the wire, fastening them on at their base with a tuft of green wax.

*Filling in the Form.*

Fill in the form of the horse-shoe compactly with forest moss, stayed with wire or thread, and set in the flowers according to taste. The design given in the illustration can either be placed in a box frame or under a glass globe; if the latter is used, the design must be supported by a rest.

This method of preserving natural flowers can only be accomplished successfully with single flowers. Tulips, single Hollyhocks, Poppies, Clematis, etc., look exceedingly beautiful and natural done in this way, and although they are not so durable, yet they make the finest specimens for exhibition.

Madame St. Emery, a noted French artist, took the first premium at the Paris Exposition for this method of preserving natural flowers.

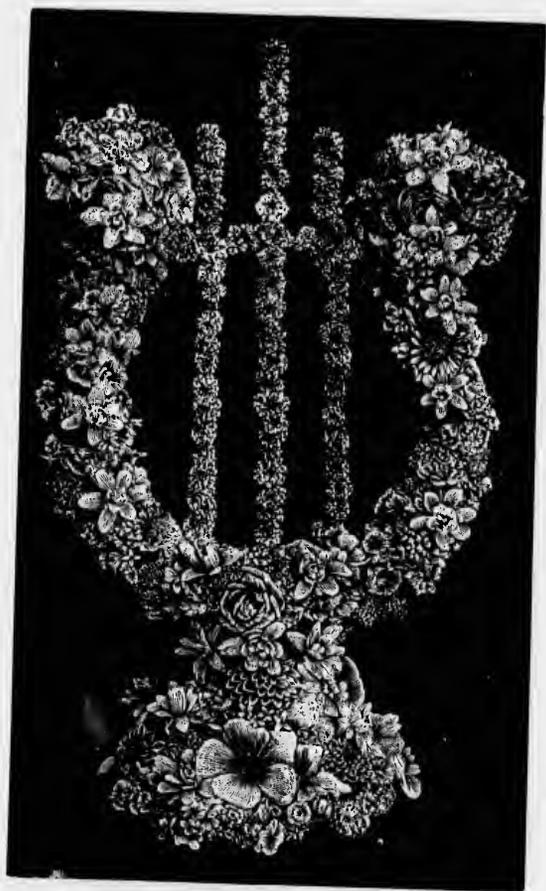


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HOSE who have experimented in pressing and preserving Autumn leaves by means of varnishing, ironing, etc., are aware of the fact of their work proving unsatisfactory, because of their changing color, becoming spotted, curling at the edges, etc.

Now, for the past year or two, we have followed a different course, and our success has been so signal that we feel glad to mention our method to our readers, in hopes of their testing it with as much satisfaction as we have done.

As soon as the trees begin to change their livery in the Autumn, begin making collections of all the various colors and shades of color, as the leaves gathered early always retain their color longest. Gather as large a supply as possible, as it is always desirable to have a large number and good variety from which to make selections. Large leaves work up well on large

panels—such as folding-screens, tables, etc., in imitation of Japanese work; and small leaves and sprays are valuable for fine work, and also for bouquets.

Old books are best as a receptacle for drying. We use old Patent Office Report books and others of similar character; and some files of old newspapers and magazines are invaluable. Blank-book paper is too stiff to answer well, yet such can be made available in case of necessity. Commence placing the leaves at the back part of the book, laying each one smoothly and never allowing them to touch each other, nor placing too many on one page. Turn five or six pages on these and place another layer, continuing this until the book is full. Then put in a cool dry place, under a heavy weight, for twenty-four hours or until the following day, and then remove to dry books and again place under pressure as before. This change is made three times in all, and after the last they remain in press for several days, when they will be found in beautiful condition and ready to arrange.

Then procure some cake-wax, such as is used for fruit moulding, put it in a vessel and set that in a pan of water upon the stove; when melted, add to it a few drops of turpentine or fir balsam, to render the wax pliable, by which means the leaves can be bent into any form desired. If the wax is in proper condition, the process may be continued, and this is best ascertained by dipping a leaf and drawing it over the edge of the pan upon both sides; hold it up by the stem with the face horizontal, when, if the wax is at right temperature, the leaf will appear as if newly varnished. If too hot it will shrivel; if too cold the wax will cool in lumps and the leaf will present a dull, rough appearance. When the wax is made of proper temperature, proceed to dip the leaves one by one, holding each until perfectly cool, and then placing upon newspapers to harden perfectly. These will present the natural appearance of the

leaf. But if a glossy surface is desired for any of them, they may receive a thin coat of Demar varnish, applied with a camel's hair brush.

A friend writes us as follows of some pretty arrangements which have been made successfully by her:

To arrange single leaves into bouquets, get green thread wire and cut into pieces as long as you wish the stems; break the stem nearly off the leaf and pass the end of the wire through the bottom of the leaf about an inch and bend it down and twist around the remaining stem and long wire, so as to hold the leaf firmly. After the leaves are fixed, arrange them in bouquets with a few pressed ferns. These will be pretty for your small vases. For large bouquets use large sprays of leaves, sumach and ferns; mix a few dried or crystallized grasses and grain, black brier, black alder, and bitter-sweet berries, and you will have as handsome bouquets for your stands and mantels as you could wish. Small clusters of Autumn leaves and ferns prettily arranged on the picture cords look nicely. Blackberry vines twined on the cords and left to hang gracefully around the picture-frame with a cluster of bright berries here and there, are beautiful. A butterfly on a cluster of ferns is pretty on picture-cords. A corner bracket, draped with Spanish moss, may be filled with Autumn leaves having two or three butterflies among them. Ferns filled in around a bracket form a pretty back-ground for a vase of berries and leaves. You can make pretty lambrequins by pinning Autumn leaves and ferns in graceful forms on your lace curtains; and you can ornament your white shades with them in the same manner.

Another pretty ornament is made of sticks about a foot long. Take three and cross them to form a rustic stand, and cover them with gray moss and a few berries and leaves; set a bird's nest in the hollow between the sticks and get a pretty stuffed bird and set it on the nest.

*Collecting and Laying Out Seaweed.*

First wash the seaweed in fresh water, take a plate or dish, the larger the better, cut your paper to the size required, place it on the plate with fresh water, and spread out the points with a good sized camel's hair pencil in a natural form—picking out with a pin gives the seaweed an unnatural appearance and destroys the characteristic fall of the branches, which should be carefully avoided. Then gently raise the paper with the specimen out of the water, placing it in a standing position for a few minutes, so as to allow the superabundant water to run off, after which place it in the press. The press is made with either three pieces of board or pasteboard. Lay on the first board two sheets of blotting paper, on that lay your specimens; place over and smooth a piece of old muslin, fine cambric or linen, and then some more blotting paper; place another board on the top of that; continue in the same way till all the seaweed is on. The blotting paper and the muslin should be carefully removed and dried every day and then replaced; at the same time those specimens that are sufficiently dried may be taken away. Nothing now remains to be done but to write on each the name, date and location. You can either gum the specimens in a scrap-book, or fix them in as drawings often are, by making four slits in the page and inserting each corner; this is by far the best plan, as it admits of their removal, without injury to the page, at any future period.

Some of the larger *Algæ* will not adhere to the paper, and consequently require gumming. The following method of preserving them has been communicated by a botanical friend:

After well cleaning and pressing, brush the coarser kind of *Algæ* over with spirits of turpentine, in which two or three pieces of gum mastic have been dissolved, by shaking in a warm place—two-thirds of a small phial is the proper proportion—and this will make the specimens retain a fresh appearance.

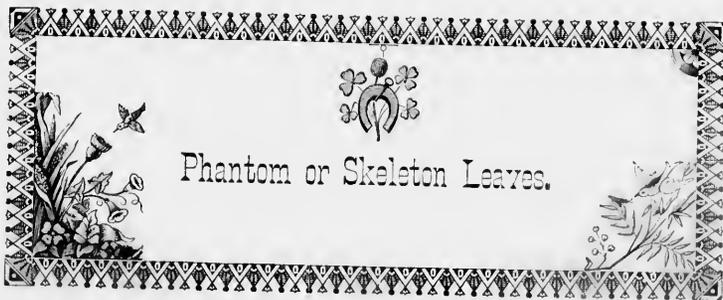
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## Phantom or Skeleton Leaves.



HANTOM BOUQUETS, so universally admired by all who can appreciate the chaste and beautiful in art, although but recently introduced to the notice of the American public, are nothing new.

The art of preparing the fibrous skeletons of plants was understood and practiced by the Chinese many centuries ago, and there are still to be found in our fancy stores reasonably perfect specimens of these skeletonized leaves, generally painted and decorated with Oriental designs and mottoes, according to the taste of that remarkable people. Whether they have ever advanced so far as the grouping or arranging of these delicate tissues into anything approaching a bouquet, we cannot say; as no evidences of their faculty for producing such combinations have reached this country; or whether, if they had progressed so far, their stiff and awkward ideas of artistic effect would agree with the cultivated taste of Americans, remains to be imagined.

The works of Chinese art which reach us, whether on lacquered tables, work-boxes, waiters, etc., show how widely their conceptions of beautiful curves and graceful postures differ from

our own standards of beauty. But be this as it may, American tourists within the last few years have been struck with the great beauty of these Phantom Bouquets, as exhibited in the fancy bazaars of European cities. These were evidently the work of the few who, in other lands than theirs, had acquired a knowledge of the art. A number of these bouquets thus found their way to this country, where they fortunately came under the notice of cultivated minds, by whom the art of producing them has been so patiently and successfully pursued, that the specimens now produced in this country surpass in richness, brilliancy and faultless nicety of preparation and arrangement, all that have been prepared in foreign lands.

But a few years ago the first Phantom Bouquet ever offered for sale on this side of the Atlantic was made by an American lady, and was exhibited in the spacious window of a large jewelry establishment in one of our chief cities. Although surrounded by flashing silver ware and sparkling gems, yet the little bouquet, composed of only a few phantom leaves and flowers, attracted the highest admiration of all who beheld it, and as may be supposed, it soon found an appreciative purchaser at a very large price. A few others (all that could then be furnished) were disposed of at the same establishment during that season. This public display served to awaken a wide interest in the subject, stimulating inquiry into the wonderful art by which the perishable leaves and blossoms of the forest and the garden are converted into durable illustrations of the complex structure of the floral world.

As is usual with so decided a novelty, many amateurs were ready to experiment the following year. Among numerous lamentable failures, a few only were partially successful in their attempts to reproduce them. We say partially, for in many cases a fine leaf was marred by stains, spots or blemishes occasioned by the ravages of insects; and although otherwise it may

have been perfectly skeletonized and the shape preserved entire and beautiful, yet these blemishes served to spoil the effect, and to destroy its value for a bouquet. Many of the less particular artists did not hesitate to mix a few such defective specimens in their arrangements; but most persons of correct taste preferred to group gracefully their half-dozen perfect leaves under a small shade, than to make a towering bouquet of imperfect or discolored ones.

The time which has elapsed since the art was first introduced here has been a season of patient experiment and investigation. There were no published essays to which the learner could refer for directions. All must be studied and acquired by laborious and careful observation, and often whole seasons would be lost while ascertaining the peculiar properties of a single leaf, the process being too slow to allow of a second gathering before Autumn had stripped the trees.

The first summer of the writer's experiments was lost in vain attempts, and bushels of carefully gathered leaves were wasted for want of a few items of knowledge, which to a careless operator, would seem of small importance. Five years of practice have taught her many things indispensable to a successful prosecution of the art, such as are neither understood nor appreciated by those who have just commenced the work. It is the object of these pages to furnish plain and practical directions for producing perfect Bouquets of Skeleton Flowers, together with a list of such plants as will repay the artist's labor.

A late writer on this subject enthusiastically declares that the art is yet in its infancy, and expresses his belief that diligent experiment will lead to results even more wonderful than any that have yet been achieved. In the confident belief that such will be the case, we shall feel glad to have given our readers an impulse in the right direction, and can assure them that by closely following the rules here given, success will certainly

reward their efforts. Those whom repeated failures may have so far discouraged as to induce them to abandon the pursuit, will be stimulated to renew their interesting labors. Others, whose entire ignorance of the process may have withheld them from even beginning, will be induced to make a trial. The probability is, that among the aspirants thus stimulated to enter the field, some superior genius will be found, at whose animating touch this beautiful art will receive a brilliancy of development surpassing all that could have been imagined by those who pioneered it into public notice.



WHEN Spring has once more dressed both tree and shrub in their gorgeous livery of green, the artist begins to look around her for the most suitable subjects for experiment. The influence of the new study on her mind becomes immediately apparent to herself. The trees, which have heretofore appeared to her as presenting an unbroken uniformity of foliage, now display their leaves to her sharpened observation with a wealth of capabilities before unknown to her, and she is surprised to learn how

infinite a variety exists in the vegetable world; variety, not only in size and outline, but in those other characteristics which are so important to her purpose, strength of fiber and freedom from blemishes occasioned by the destructive ravages of insects. As observation is directed to the subject, so the mind becomes expanded under the influence of the new study. The surprising difference between the leaves now first becomes apparent. They are seen to be serrated or entire, ovate, acuminate, cordate or irregular. The magnificent luster of the Ivy and Magnolia now, for the first time, attracts attention and secures for them a new admiration. As the season advances, she will be struck with the numerous changes to which the leaves are subject before the chill winds of Autumn strip them from the trees, thence depositing them in rustling piles upon the ground. As incidental to the study, the habits of a multitude of insect depredators will be noticed, affording new subjects for surprise and fresh accessions of knowledge. Everywhere the wonders of the Divine Hand will be displayed under conditions to which she had been a stranger; and the mysteries of Nature thus unfolded will infinitely surpass all we may mention in these pages.

Without some directions to guide her, the enthusiastic learner, in haste to begin the work, gathers indiscriminately from forest and garden, selecting leaves remarkable only for their ample size or pleasing shape, and places the whole diversified collection in the prepared receptacle to undergo the process of maceration. In her ignorance of certain first principles, she does not imagine that she has overlooked some of the most indispensable ingredients of success, which, standing as they do at the very threshold of the undertaking, must not only influence, but when disregarded, must render absolutely futile, all subsequent steps in a process which under any circumstances is exceedingly tedious. We may suppose that in her natural impatience to commence her labors she has gathered up an ample store of leaves, imme-

diately on their attaining their full growth. It is true that in this early preparation she has anticipated the attacks of destructive insects, but the leaf will then be too immature to withstand the macerating process. The fibers will be found too succulent and not sufficiently ligneous to sustain the pressure and handling always necessary to produce a perfectly skeletonized leaf. After probably two months of patient watchfulness, she is consequently compelled to throw away her choice collection, the whole having become a mass of pulp, in which there is neither stem nor fiber to identify a single leaf.

By this time the season has advanced and the foliage on the trees has undergone important changes. Many of the leaves, having lost their early succulency, have assumed a strong ligneous character. In place of excessive pulpiness, an undue proportion of fiber pervades the whole structure of the leaf. It has, in fact, become too old for maceration. In other cases the leaf has either been stung by an insect, and the channels through which the sap so mysteriously circulates having become obstructed by the poisonous infusion injected into them, its shape becomes distorted, or its surface is disfigured by blisters. Others have been attacked by a different tribe of enemies, who by half devouring the leaf, as effectually destroys it for the artist. The latter catastrophe invariably overtakes the foliage of the Elm, the Magnolia and the Maple. These facts we have verified in our own experience; and having been compelled thus to learn them, the resulting knowledge was acquired only from repeated and trying disappointments. They make evident the importance of knowing the exact point in the season at which each leaf is in proper condition for the artist's hand.

Another error consists in placing in the macerating vessel many different sorts of leaves, without a knowledge of their chemical properties. For instance, those of the Oak, Chestnut, Walnut, Birch and Hickory contain so large a quantity of tannin

as to render it almost impossible to macerate them in the usual way. If placed among other and more perishable leaves, the infusion of tannin thus created will act as a preservative and entirely prevent their decomposition. The writer learned these facts, to her cost, during the first season's experiments. A few beautiful Oak leaves were placed among a large number of other varieties which were in course of preparation, and not until after months of patient waiting, watchfulness and handling did she discover the true cause of her disappointment, when it was too late in the season to repair the loss. The reader will at once perceive how important are these rules and cautions, thus placed at the head of our directions.

Throughout the Middle States by the fifteenth of June most of the desirable leaves will be found fully grown, and many of them are then old enough to gather. Elms, Swamp Magnolias, Maples, Deutzias, Pears, Silver Poplars and English Sycamores may be selected, but none but the firmest and most perfect leaves should be taken. These kinds may be placed together in open vessels and covered with soft water, and then set in a warm or sunny place in the open air. A broad weight may be placed on the top, so as to insure continued immersion. A newspaper, doubled and laid over the top of the leaves, will answer the same purpose as a weight and is perhaps better, as it keeps its place while the weight sometimes falls to the bottom of the vessel. The best vessel for the purpose is a common earthen jar with a wide mouth, the size to be proportioned to the quantity of leaves to be macerated.

At the end of six weeks the paper may be removed and a few of the leaves carefully taken out for examination, and placed in a basin of clean warm water. To do this, the human hand is the best instrument; but as many persons may object to thus dipping into what has now become an unpleasant mass of vegetable decomposition, a broad wooden spoon may be substi-

tuted. Then, taking a leaf between the thumb and finger, immerse the hand in the warm water and press and rub the leaf either gently or firmly, according to the strength of its texture. This rubbing process will remove the loose green matter from the surface and expose to view the fibrous network of the leaf. With those which are strongest, especially the Swamp Magnolias, a brush will be needed to effectually clean them—a soft tooth-brush will answer best—but in using a brush, the leaf should be laid in the palm of the hand, on a plate, or on any other surface equally flat and smooth.

This constitutes the first washing, and a few of the leaves will now be found perfectly clear. But to some of them thus washed and but partially cleared further care must be extended. It will therefore be necessary to have at hand a second vessel of water similar to the first, in which all such imperfectly skeletonized leaves may be placed, where they must remain until finished, which, with all but the Swamp Magnolias, will probably be two or three weeks longer.

We may suppose that the artist has made a beginning with the leaves already mentioned in this chapter. On taking them out of the macerating vessel and washing them as directed, she will find the Deutzias and Silver Poplars perfectly clean, and they should then be placed in a basin of clean water until all the contents of the macerating jar has been examined. A few of the Norway Maples will also be found perfectly prepared; but the majority of all contained in the jar will still be only partially so.

In the latter condition will be found the Sycamores, the Silver Maples, the Elms and the Pears. These must, consequently, be deposited in the second vessel, as before mentioned, to undergo still further maceration. The Magnolias will require another two or three months' soaking before the outer cuticle will become soft enough to remove; but if more convenient, they

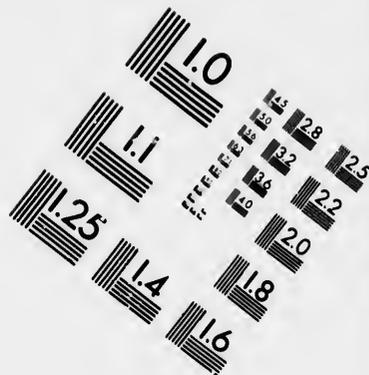
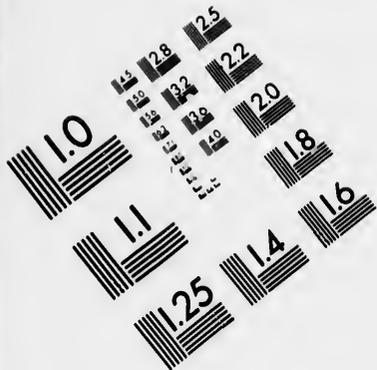
may be placed in the same vessel with those last named. After covering these half-cleaned leaves with water, all in different stages of progress, they should be left in the same warm, sunny place to be finished. We may here remark, for the comfort of the learner who has persevered thus far in an operation which will be discovered to be decidedly unpleasant to her olfactory organs, that the most offensive portion of the labor is over, at least with this particular set of leaves, as after having received their first washing, they part with most of the putrefactive odors which have so long pervaded the air in the vicinity of the macerating jar.

The clear and perfect leaves which were deposited in the clean water, awaiting a leisure hour to give them further attention, may now be deprived of their moisture by carefully pressing them between the folds of a soft blotter until they are perfectly dry. On no account let them be laid on a table, or other hard surface, while in a wet state, as in drying they will adhere to it so closely as to tear in the effort to remove them. The Norway Maple, being extremely delicate, will adhere, while wet, even to the hand, and great care must be exercised in removing its leaves to avoid tearing. It will be noticed that many of the leaves will lose their stems in passing through the process; but the mode by which this deficiency is to be supplied will be explained in its proper place hereafter. When dried, the leaves may be placed in boxes, ready for bleaching when the assortment has been completed.

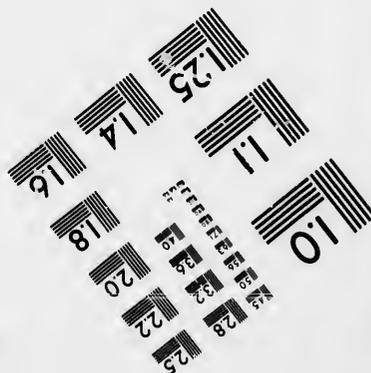
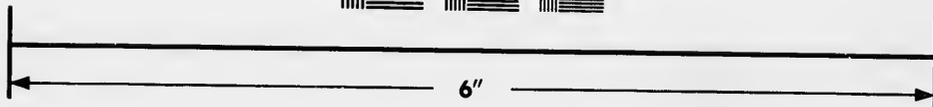
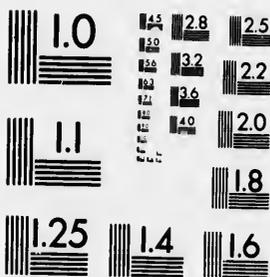
We append another method, which may not be so efficient, but which is more expeditious and not at all offensive:

First dissolve four ounces of common washing soda in a quart of boiling water, add two ounces of slacked quick-lime and boil for about fifteen minutes. Allow the solution to cool; afterwards pour off all the clear liquor into a clean saucepan. When this liquor is at its boiling heat, place the leaves carefully





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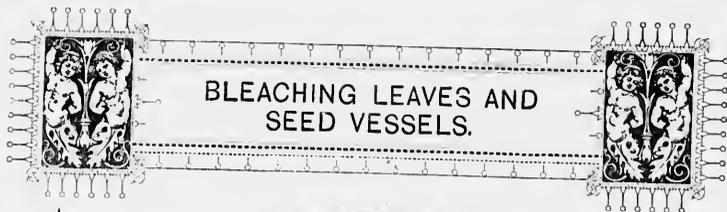
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in the pan and boil the whole together for an hour, adding from time to time enough water to make up for the loss by evaporation. The epidermis and parenchyma of some leaves will more readily separate than those of others.



THE next process, and one of great importance, is that of bleaching the leaves, flowers and seed-vessels. It is an operation which requires the greatest care, as upon the perfect whiteness of all the component parts of a bouquet its beauty will depend. No matter how perfectly the leaves and seed-vessels may have been skeletonized, if they are permitted to retain any shade of their original yellow they are deficient in beauty, at least to the eye of the connoisseur.

The first step in this part of the process is to procure proper bleaching materials. Many persons are entirely successful in the use of chloride of lime, while others prefer Labarraque's solution of chloride of soda, or Powers & Wightman's. The former should be prepared for use in the following manner: Take a half pound of strong chloride of lime and place it in an earthen or other pitcher. Add three pints of soft, cold water and stir carefully with an iron spoon, pressing so as to mash the lumps well against the sides of the vessel. Keep it covered and allow it to stand in a cool place until the lime has precipitated

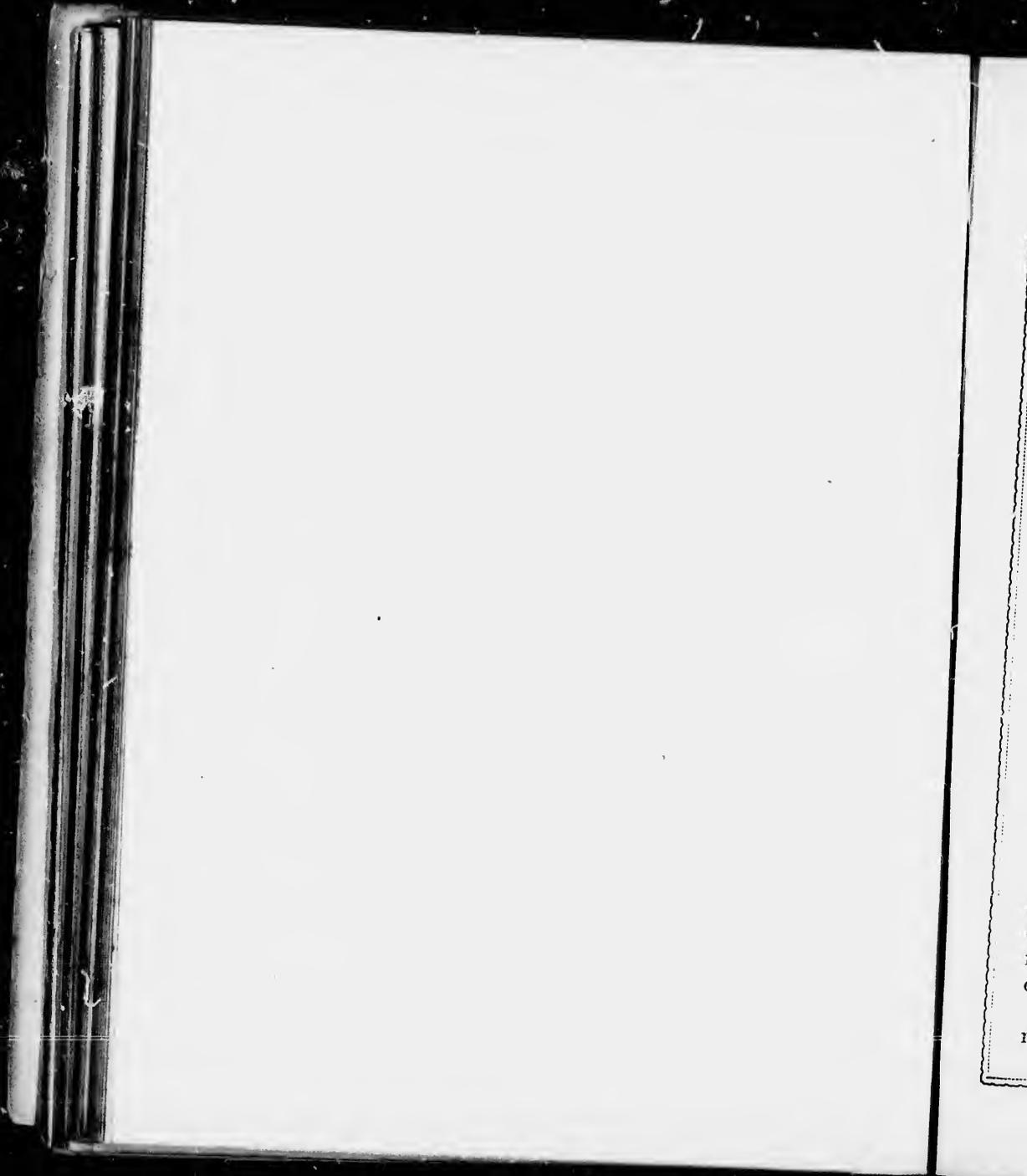
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upon the bottom of the pitcher, which will be done in about an hour, except a small portion that may remain floating on the surface. This should be removed with a spoon or skimmer, after which the clear liquid should be poured off into a bottle, then corked up tightly and kept in a cool place.

When ready to commence leaf bleaching, take a glass jar, such as is used for pickles or preserves, having a mouth wide enough to admit the largest leaf. First, select those intended to be whitened, but be careful not to place leaves and seed-vessels in the same jar; then with soft, clear water cover the leaves in the jar and add the bleaching solution, which is extremely powerful and should be diluted with from three to six times the quantity of water (soft), according to the texture of the leaves to be bleached. The jar should be covered tightly and set in a warm place. When coarse seed-vessels and stems are to be bleached, this proportion of the chloride of lime may be doubled, but the delicate leaves, and especially the Ferns, will be destroyed if the solution be made too strong.

Labarraque's preparation of chloride of soda acts gently and more slowly, and being free from the caustic properties of the lime, is less likely to attack and corrode the delicate framework of the leaves. The quantity of this solution to be added to water must be double that of the first named preparation. It will whiten the flowers, Ferns and more tender of the seed-vessels, but it is not strong enough to act on those which are coarser and more ligneous. There is great difficulty, however, in procuring this preparation of the required freshness and strength, as its bleaching properties depend entirely on the amount of chlorine contained in it; and this being a very volatile gas, it is readily lost by keeping a length of time, even when carefully corked and sealed.

The best preparation for this purpose is Powers & Wightman's. One bottle of this will whiten a large number of leaves,

without injuring the fiber or making them brittle, as is the case with the chloride of lime. The proper proportion for mixing will be about half a teacupful to a pint of water. This will generally whiten two sets of leaves; that is, as soon as those first put in are perfectly white, they may be taken out and a second lot placed in the same mixture. Sometimes, however, it will be necessary to add a small quantity more, say a tablespoonful, in order to complete them. For amateurs, and even for accomplished artists, a superior solution, thus ready prepared will be found safer and more likely to insure perfect success than any preparation they will be able to compound for themselves. The saving of trouble in using it will be quite a consideration.

In putting the delicate leaves into the jar, care should be taken to arrange them beforehand with the stems all pointing the same way, that is, downwards in the jar. The reason for this exists in the fact that the bleaching commences first at the bottom of the vessel; and as the thick stems and mid-ribs require more time to whiten than the lace-like portion of the leaves, it insures their being satisfactorily finished in a short time. A jar of leaves will usually require from six to twelve hours for bleaching; but as the jar is of glass, an outside inspection will enable the operator to judge of the degree of whiteness without raising the lid until it may be time to remove them.

When they are discovered to be entirely white, they must be taken carefully out with the hand and laid in a basin of clean, warm water. If suffered to remain too long in the jar they will become too tender for removal. They may then be thoroughly washed from the chlorine, by changing them several times in fresh water, after which they will be ready for their final drying. This is accomplished as before, by laying them between blotting pads; while the more delicate ones, which are apt to curl in drying, should now be laid between the leaves of a book until entirely dry. The washing is a very important part of the opera-

tion, as if not thoroughly done, the bouquet will soon become yellow and otherwise discolored, and thus in the end lose its attractiveness and beauty as a parlor ornament.

As before stated, it will be advisable to keep the seed-vessels separate from the leaves and to put them in different bleaching jars. If placed promiscuously in the same jar, the seed-vessels will become so entangled in the fine network of the leaves, that in the attempt to remove them the latter will be seriously injured. Seed-vessels and flowers require the same treatment in bleaching and washing, only remembering that the coarser seed-vessels may need a stronger infusion of the bleaching preparation. A little experience will soon inform the operator as to the exact quantity required for all kinds of leaves and seed-vessels.

The bleaching of the Ferns will need some special directions. Many who have succeeded admirably with leaves, have invariably failed in their attempts at preparing these graceful sprays. As they constitute the most brilliant embellishment which can be introduced into a bouquet, such failures are especially mortifying. But by closely following these simple directions, there will be no difficulty in producing entire sprays of white Fern ready to be arranged with other materials for the bouquet.

Having gathered Ferns of different varieties during their season of maturity—which is when the seeds are to be found on the back of the leaves—they should be preserved by pressing them between the leaves of a book, there to remain until required for bleaching. When ready for that process, let the operator select such as she desires, and place them carefully in a jar, causing them to curl around the sides rather than with stems downward, in order to avoid breaking the dry and brittle leaves. The smaller separate leaflets may occupy the space in the center of the jar. Then fill up the jar with warm water, leaving room for the bleaching solution, in the proportion of half a teacupful of the solution to a pint of water. Cover the jar tightly and set

in a very warm place. After twenty-four hours, gently pour off the liquid and replace with fresh, mixed as before. They should remain in the second water about forty-eight hours, when this, in like manner, will require to be changed. In about three or four days the Ferns will begin to whiten at the edges, and this whiteness will gradually extend itself over the entire surface of the spray, changing it from a dark, brownish green to the spotless purity of a snowflake. Each one must be carefully taken out as soon as it is seen to be entirely white, without waiting for the whole contents of the jar to be finished.

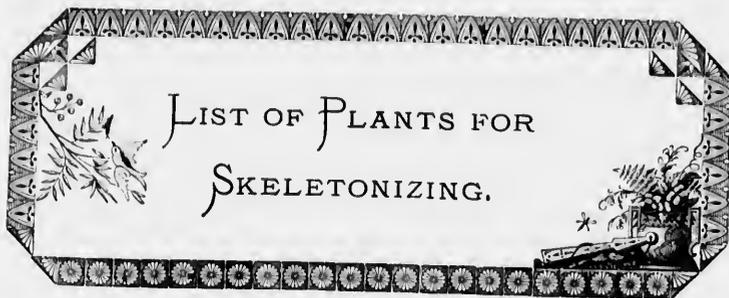
In the bleaching of a large spray, it sometimes happens that its extremity, perhaps half of the entire length, will become perfectly white, while dark spots remain on the upper or stem end. In such cases it will be safest to take out the branch, and laying it in a basin of water, cut off the white portion, and return the unfinished remainder to the jar. Afterwards, when both are ready for the bouquet, the two portions can be neatly united with gum arabic. The process of changing the water will have to be repeated four or five times during the operation of bleaching the same lot of Ferns, and the time required to whiten them completely will extend over a period of from one to two weeks. The time depends on the varieties of Ferns which may be used, as there is a wide difference in their susceptibilities, some being wholly unfitted for this purpose.

When the sprays are found to be entirely white, they must be taken from the jar with the fingers, always holding them by the stem, and laid in a broad basin of clean, warm water, where they should be allowed to remain for several hours. They may be thoroughly rinsed by changing the water several times, but they will not bear handling in the same manner as will the skeleton leaves. When ready to be dried, take one spray by the stem and lay it in a broad dish or basin of water, allowing it to float on the surface; then pass under it a sheet of unsized white

paper, and in this way lift it out of the water. The spray will cling to the paper, and assume its natural shape. Should any of the small side leaves become crooked or overlapped, they may be readily straightened by using the point of a pin to spread them out in proper shape upon the paper. To get rid of the superfluous moisture contained in the latter, lay the sheet first on a soft blotter for a few minutes. The blotter will absorb most of the excess of water. After that it must be laid between two other sheets of the same unsized white paper, and pressed in a book.

When all the sprays have been thus removed and committed to the keeping of the book, a heavy weight should be placed on it, in order to insure their drying smoothly. If desirable, the drying may be accelerated by changing them, after a day or two, into another book, or into new portions of the first. When entirely dry, if some of the thinner varieties are found to adhere to the paper, they may be loosened by pressing the thumb nail on the under side of the paper. It is better, however, even after they are thoroughly pressed and dried, to keep them shut up in a book until wanted for the bouquet, as they have a tendency to curl when exposed to the air.

The writer has given directions for the bleaching of Ferns only by the new preparation of Powers & Wightman, as it has been proved to be the most reliable compound for that purpose. She has fully tested chloride of lime, and finds it altogether too severe for these delicate tissues, while Labarraque's solution is much slower in its operation—one bottle of the new preparation being equal in strength to two of the article last named.



LIST OF PLANTS FOR  
SKELETONIZING.



HE process of maceration has already been shown in the preceding pages. We have endeavored to give such clear and practical directions as will apply to all varieties of plants, but there are certain peculiarities which seem to be inherent in each particular leaf, seed-vessel and flower, so as to call for specific directions, in order that success may be insured with all. Instead, therefore, of dismissing the subject with a mere list of leaves adapted to the purposes of the art, and leaving each learner to discover these varying peculiarities for herself, at great cost of time and labor, we shall give a few general rules for the treatment of each one named. The learner will need all the light that can be thrown on the subject, and the minute particulars which follow will contribute largely to her successful prosecution of the art. The illustrations which accompany the description of such leaves as are most important, will enable the reader to determine the names of doubtful varieties.

*Magnolia.*

This splendid genus of trees deserves to be placed at the head of our list of those plants whose leaves are well adapted to

the purposes of our art. Its varied species are to be found on the eastern shores of both the great continents of North America and Asia. The United States produces no less than eight varieties, while China and Japan have four or five. Neither Europe, Africa nor South America can offer a single species of indigenous Magnolia.

The different varieties of Chinese Magnolia have, with one or two exceptions, been acclimated with us, and are to be found in most of our ornamental shrubberies, their lovely white and purple blossoms and spicy fragrance, together with the neat and regular appearance of the trees themselves, making them general favorites. Most of the Chinese varieties will answer for our purpose, but we give preference to the following: First,

#### White Chinese Magnolia.

(*Magnolia conspicua*)

This variety blossoms during April in the Middle States, and by the Chinese is called the Lily Tree, from its lily-shaped flowers of a creamy white color. The leaves arrive at perfection in June, and may be gathered for maceration between the 15th of that month and the middle of September. After that time the ravages of insects begin to show themselves.

*Magnolia Purpurea* and *Magnolia Soulangianna* are purple varieties of Chinese origin, and may be gathered and treated as the above-named. From four to six weeks will generally be long enough for their perfect maceration, when they can be readily cleaned by the aid of warm water and rubbing between the thumb and finger.

#### American Swamp Magnolia.

(*Magnolia glauca*.)

(*Fig. No. 1.*) This is the fragrant wild Magnolia, which blooms in June, and is found in great profusion in the swamps

and marshes of New Jersey. When transplanted to the garden the leaves are produced in great perfection, while their size is increased by cultivation. They are in perfection at the time of blossoming, and on no account should be gathered later, as after that time they become too tough and abound with invisible stings of insects, which injuries, not becoming apparent until after the cleansing process has been completed, the otherwise beautiful leaf will be found covered with small black spots which can neither be whitened nor removed. These leaves require three or four months to macerate, and may then be brushed with a tooth-brush to remove the little cellular particles which fill up the interstices and which give to them a thick and cloudy appearance.

Silver Poplar.

(*Alba.*)

(*Fig. No. 3.*) This leaf is one of the most desirable, as well as most easily cleaned since it requires but four or five weeks to macerate, and has a strong fiber. The leaves of this tree present much variety of shape, and the sizes of those which are matured vary from half an inch to four inches in length. They may be gathered as early as the 1st of June, and generally remain free from spots until September. Avoid the foliage of the suckers, which are frequently found growing vigorously around the parent tree, as the fibers of such leaves are too weak and tender for our purpose. They will lose their stems by maceration, but these may be replaced, as directed in a previous chapter.

Aspen Poplar.

(*Populus tremula.*)

The leaf of this tree is larger than that of the preceding and is also more delicate. It may be gathered in June or July, and will require about a month to macerate. Great care will be necessary in handling them.

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## Tulip Poplar.

*(Liriodendron tulipifera.)*

## Lombardy Poplar.

*(Populus pyramidalis.)*

Both these may be gathered early in summer, and should be treated like the Aspen Poplar.

## Norway Maple.

*(Acer platanoides.)*

(*Fig. No. 4.*) The most beautiful of the Maple family in shape and general adaptability to the present purpose. A single branch taken from one of these trees will present great variety in size and shape, the small leaves at the extremities cleaning quite as perfectly as the largest. They should be gathered by the 20th of June, certainly not later than the middle of July. They will be finished in about six weeks, losing their stems, as is invariably the case with all Maples. The Silver Maple may be treated by the same rule.

## Eindens and Weeping Willows.

(*Fig. No. 16. Willow.*) These two desirable leaves may be gathered in July, and will macerate in from six weeks to two months. They need very careful handling, or brushing with a camel's hair brush on a plate.

## European Sycamore.

*(Acer pseudo-platanus.)*

(*Fig. No. 6.*) A beautiful leaf, in shape somewhat resembling the Norway Maple but possessing a firmer and thicker texture. It must be secured early in June, as by the close of that month it becomes unfitted for our use, and but few of those collected after the 20th of June will come out entirely free from

clouds or blemishes. About two months will complete their maceration.

#### Ash.

(*Fig. No. 5. English Ash.*) There are several species of this family which are admirably adapted for our object. Of these, the Flowering Ash (*Ornus Europæus*) and the English Ash are the most beautiful. They will become clear and perfectly skeletonized in about six weeks after gathering, which may be done in July and August.

#### Everlasting Tea, or Chickling Vetch.

(*Lathyrus.*)

(*Fig. No. 11.*) This pretty garden perennial, with an abundance of deep pink blossoms, is too well known to need description. The leaves may be gathered at any time during summer and require but a few weeks for maceration. They lose their stems. The graceful tendrils of this vine may also be placed in water with the leaves and after remaining some weeks the outer cuticle can be easily removed without untwisting the curl, and these, when bleached, will be found ornamental to the bouquet, especially where the design adopted consists of a vine.

#### Elm.

The leaves of this beautiful tree must be gathered very early. Indeed, so soon do the caterpillars begin their ravages, that in some sections of the country, before the leaf is strong enough for the purpose of the skeletonizer, it is too much eaten to be worth collecting. June or July will answer, if any perfect leaves are then to be found. They will macerate in about four weeks, and, being very delicate, will need the greatest care. If the leaf be laid on a plate, or something similar, a camel's hair pencil will remove the softened particles, leaving the fiber clean, to be

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floated off into the basin of water, and then laid carefully on a towel to dry.

The Evergreen Elm (*Ulmus sempervipens*) (Fig. No. 10) is a small, glossy leaf with scalloped edges and may be used at any season of the year, requiring about three months for its perfect clearing. A native of France and is rare in America.

*Deutzia Scabra*; or Rough-Leaved *Deutzia*.

(Fig. No. 8.) One of the most beautiful small leaves we can use. Gather in June or July. They will be perfectly skeletonized in three or four weeks, without losing their stems. These graceful little leaves, with serrated edges, form beautiful wreaths and sprays, either for black velvet crosses or to be twined around the base of a bouquet.

*Deutzia Gracilis*, another variety of this desirable garden plant, requires somewhat longer for its perfect preparation.

Beech, Hickory and Chestnut.

These leaves contain a slight portion of tannin and had better be kept separate from other kinds. A few drops of muriatic acid added to the water in which they are placed for maceration will hasten the process. They may be gathered in July and will require several months to become completely skeletonized.

Dwarf Pear, Sassafras and Althea.

(Fig. No. 9.) Gather in July. They require about two months to macerate.

Rose.

(Fig. No. 7.) The common annual blooming dark velvet Rose furnishes the best description of leaves for our purpose. They should be gathered in July before the insects have stung them, and will require about two months' soaking. They are very delicate and must be brushed on a plate.

*White Fringe Tree.**(Chionanthus Virginica.)*

Gather in July. Will be ready for clearing in about two months.

*Dutchman's Pipe.**(Aristolochia tomentosa.)*

This is a rather coarse vine, of rank growth, well suited for covering unsightly buildings or decaying trees. It bears a curious white blossom, shaped somewhat like a pipe, whence it takes its homely name. The leaves are heart-shape, of thick and woolly texture, but the skeletons they produce are so exceedingly beautiful as to make them indispensable to a complete collection. They should be taken from the vine not earlier than the middle of July, and perfect specimens may be obtained as late as the middle of September—probably about the first of August will be the best time. Select the firmest and oldest leaves. Some of them will be clear in four weeks after immersion.

## July.

(*Fig. No. 17.*) These much admired leaves may be gathered at any time during the year, always selecting those a year old in preference to the younger growth of the present season. The Ivy leaf, like some others, has a tough outer cuticle on each side, between which the fibrous skeleton is concealed, the intermediate space being filled with the green cellular matter common to all leaves. During the process of maceration this green substance becomes dissolved, though the outer skin remains whole and entire. When taken from the macerating vessel and laid in the clean water for cleansing, this skin will present the appearance of a bladder filled with green water. By puncturing, or gently tearing the skin on one or both sides of the leaf, the water will escape and the perfect skeleton will float out, ready for

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rinsing and drying. Four or five weeks will be sufficient to allow for their preparation, although some varieties require a few weeks longer.

### Holly.

(*Fig. No. 12.*) This leaf is quite difficult to clear properly, owing to the tough outer cuticle adhering so tenaciously to the thorns on the edges, as to tax the ingenuity and patience of the operator in removing the one without breaking off the other. For this reason most amateurs give up after the first attempt and content themselves with more beautiful and less troublesome subjects. About three months is the time necessary for skeletonizing them; and being evergreens, they may be gathered at any time.

Wistaria, Bignonia, Greenbrier and Wild Yam—all vines that are tolerably well known—may be skeletonized by the usual process in from six weeks to three months, and should be gathered about the middle of July.

Of greenhouse plants, the leaves of Camellia Japonica, Cape Jasmine, Laurestina and Caoutchouc may be done after months of soaking. A shorter process, however, which some parties prefer for all descriptions of leaves to the slower method which we have adopted, is found to answer well for these particular species. Their tough epidermis requires something more than the ordinary sluggish operation of water and summer heat to soften and remove them. The process consists in boiling them for several hours in strong soapsuds, using the ordinary chemical soap of the shops.

This will generally succeed with these last named plants, but for those which are tender and delicate, as before described, it is too severe. Besides this, the chemical properties of the soap affect the leaf in so peculiar a way, to increase the difficulty of bleaching; and notwithstanding all possible care be taken to

wash after the boiling process is over, enough of the refractory element remains to defeat all attempts to make the leaf perfectly and permanently white. Therefore, while we mention the process as an item of information due to the learner who desires to understand the whole routine, and to test for herself the various modifications of practice now in use, yet we prefer and still adhere to our own formula, as at first described. We consider it the best, and by far the most reliable, although it is unquestionably slow and tedious in all its various processes.

In concluding our list of these, the most desirable leaves that have so far come under our own observation, we would by no means limit the researches and experiments of other artists. Different localities will unquestionably furnish different specimens, and thus their collections may be greatly enlarged by the adoption of new and more beautiful leaves. As a general rule to govern in the selection of appropriate subjects for experiment, let those of strong and woody fiber be chosen, rather than thick, fleshy leaves, whose veins or ribs may be soft and juicy. Avoid, also, those which have veins traversing the leaf in a longitudinal direction, instead of forming a network tissue radiating from the mid-rib to the outer edges of the leaf. The former are known as endogenous, the latter as exogenous varieties of leaf structure. As an example of the endogenous, we may cite the leaves of different kinds of Lilies. If put into the macerating vessel, a few days, or a week, will be sufficient to reduce them to a mass of pulp, resembling a bunch of thread or strings, with apparently no connecting framework to hold the fibers together in form. The practiced eye can in most cases discover the character of the leaf under observation, by merely holding it up against the light, when the veinwork will be plainly perceptible, and its value decided by the closeness or coarseness of its vascular structure.

We add the following as having been successfully skeletonized :

Horse Chestnut (*Aesculus hippocastanum*).

Kentucky Coffee Tree (*Ginnocladus Canadensis*).

Flowering Pear (*Pyrus Japonica*).

Andromeda.

Rose Acacia (*Robinia hispida*).

Witch Hazel (*Hamamelis Virginica*), said to be very beautiful; should be gathered early.

Wild Cherry (*Cerasus serotina*).

Sugar Berry (*Celtis occidentalis*).

Fraxinella Dictamnus.

Franciscea,—very beautiful.

Erythrina Crystigalla.

Virgilia Lutea.

Matronia.

Barberry (*Berberis aristata*, and *purpurea*).

Mountain Laurel (*Rhododendron*).

Box.

Butcher's Broom (*Ruscus hypophyllum*).





**D**IFFERENT varieties of the Ground Cherry family (*Physalis*) are entitled to particular notice. The peculiar characteristic of this family of plants is the berry, enclosed in a bladder-like receptacle. These berries are about the size of the cherry, with color yellow, red or purple, and having a pleasant, sweet taste. The green covering becomes of a yellowish color when the fruit is ripe, and they fall to the ground together, when the curious case will soon become perfectly skeletonized by contact with the damp ground. But as they are very liable to be eaten by insects while on the ground, it is much better to gather them as soon as they fall and place them in the macerating vessel, allowing the berry inside to remain until softened, in order to avoid tearing the delicate little bladder. Two or three weeks will be long enough to allow for their preparation. They may be washed by passing rapidly to and fro in hot water, when the softened berry may be pressed out, then dried with a soft blotter. Some species lose their stems and may be prepared for the bouquet by using the gummed thread, being careful to bend gracefully, so as to give the effect of drooping.

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## Wild Hop.

*(Petia trifoliata.)*

(Fig. No. 2.) This is a membranous capsule surrounded by a leafy border, which after about two weeks' soaking, becomes very lace-like and beautiful. Before bleaching, the seed may be removed by making an incision on one side of the capsule, being careful when afterwards arranging it, to place that side downwards.

## Nicandra Physaloides.

One of the most desirable and showy for this purpose. The blue Nicandra should be cultivated by all makers of the Phantom Bouquet. The calyx of the plant, enclosing first the flower and afterwards the seed capsule, is of a curious balloon shape, of bright green until the seed is ripe, when it becomes brownish. Each one has a tough stem, which is retained through maceration, and is attached to the stalk of the plant, the latter being covered by the calyxes, at a distance of an inch apart, quite to the end of the branch. This calyx seems to be formed of five distinct divisions, like leaves, which, when pressed open and bent in proper shape, has after bleaching, every appearance of a flower. To increase the variety in the bouquet, they can be used both in their natural form to represent buds, or in the way described. They require about three weeks to macerate, when they may be cleaned in hot water, aided perhaps by the toothbrush. A whole branch may be done without separating from the main stem.

## Thorn Apple: Jamestown Weed.

*(Datura Stramonium.)*

A well-known rank wayside weed, very poisonous to the taste, but not to the touch. The seed-vessels should be gathered when

ripe, and soaked about six weeks, when by the aid of a stiff brush, the beautiful skeleton will appear. When bleached, they resemble carved ivory, and are much admired in the bouquet. The only drawback to their value is their tendency to become brown again after bleaching. For this reason we have entirely discarded them.

Wild Cucumber, or Balsam Apple.

(*Echinocystis.*)

This is one of the most curious specimens in our list of beautiful seed-vessels. It is said to grow in abundance in the neighborhood of Boston, bearing a profusion of seed. The seed-vessels vary in size from an inch to nearly two inches in length, and about half that in thickness. They become perfect skeletons on the vine, where they should be allowed to remain until the frost has opened them and dropped the seed. If not entirely clear when gathered, they may be completed by a few weeks' soaking. They form beautiful vase-like receptacles for the base of the bouquet, and as they retain their whiteness, are excellent substitutes for the Stramonium burrs.

Lobelia.

The little wild species is very beautiful, with its delicate globes set along the stem. About three weeks will do for them, when they will become clear by passing to and fro in a basin of hot water.

Skull Cap.

(*Scutellaria.*)

These delicate clusters of seed-vessels may be skeletonized in two or three weeks, and cleared in the same way as the Lobelia.

*Shell-Flower.**(Phyton Concha.)*

A curious shell-shaped calyx, with four seeds which remain in the extreme point of the horn. The plant is rare and rather difficult to cultivate. It seems to belong to the Sage family, and has an aromatic odor when pressed. The calyx is very delicate, and will macerate in ten days or less. When seen in a group of Phantom Leaves, they somewhat resemble the *Convolvulus* blossom.

*Poppy.*

The cultivated garden varieties will macerate in a week or two. The fiber does not remain very perfect, at least in a general way, as it is apt to tear by removal of the inner skins. But the star-shaped summit of the capsule looks well upon the velvet cushion. The black lines which radiate from the center may be removed by aid of a pin, when a beautiful lace-work appearance will be imparted to it.

*Mallows.*

Several varieties. The common garden Mallows, with calyx enclosing seeds, are the prettiest. They grow in clusters, and if suffered to remain until a frost, will become skeletonized on the plant.

*Hydrangea Hortensia.*

(*Fig. No. 13.*) The well-known garden species—the bunches should be left on the plant until late in September, in order to become firm. Separate into small bunches, leaving not more than four or five in a cluster. They will require about ten or twelve weeks for maceration, and may then be cleansed by passing to and fro in hot water, changing the water frequently as it becomes filled with loose particles. If some of the leaves are

separated, they can easily be replaced with gum arabic after bleaching.

*Hydrangea Quercifolia*: Oak-Leaved Hydrangea.

(*Fig. No. 14.*) This is a tougher and coarser species, composed of four flat petals. It requires longer time to macerate than the *Hydrangea Hortensia*, but should be gathered as soon as the bunches begin to turn brown on the tree. A brush will be necessary to clear properly.

*Campanula.*

The seed-vessels of the several species of these, including the Canterbury Bell, are much admired in the bouquet, although not so delicate as the *Lobelia*, which they resemble. Some varieties will become sufficiently prepared on the plant and only require bleaching, but others require two or three weeks' maceration.

To the above list the following may be added:

Black Henbane (*Hyoscyamus niger*).

English Monkshood (*Aconitum Napellus*).

Toad Flax (*Colutea arborescens*).

Wild Salvia.

Figwort (*Scrophularia nodosa*).

Jerusalem Cherry (*Solanum pseudo-capsicum*).

Bladder Nut (*Staphylea trifolia*).

Safflower: False Saffron (*Carthamus tinctoria*).

False Pennyroyal (*Isanthus cerula*).

Lily of the Valley: The dried Flowers.

In concluding these instructions in the art of preparing and completing the Phantom Bouquet, we have endeavored to be plain and practical in every particular, seeking not only to direct the learner in her experiments, but also to guard her against the

mistakes and disappointments which must invariably attend the labors of the unassisted amateur.

When the first bouquets appeared for sale in this country, the admiration they excited awakened a general curiosity as to the process by which they were produced. Inquiries were addressed to the editors of some of our scientific journals, but they could answer only according to their own very limited knowledge of the art; and hence this occasional information was exceedingly vague and unreliable, and, indeed, it often misled the learner, resulting in discouragement to some and in entire disgust to others.

The writer has here given her own practical rules and ideas, adopted from actual experience, and no careful learner need hesitate to follow in her footsteps. But, however invaluable instruction may be to the beginner, personal experiment will be found indispensable. We cannot write up the amateur to the position of an artist. Yet a desire to reach the status of the latter will stimulate to exertion and perseverance, and these, with ordinary taste and skill, will surely be rewarded with success. None, therefore, whose love for the truly beautiful in art is deep and strong, and whose aspirations for eminence are decided and sincere, will permit a few early discouragements to turn them aside from the undertaking.





ANY times it will be desired to make impressions of the skeletonized leaves, either for preservation as curiosities in the scrap book or photograph album, for transmission by mail as specimens of the art, or for the engraver to reproduce on wood. The making of these impressions directly from the leaves, though an exceedingly simple process when once understood, requires much care and skill to learn. Whoever may undertake to produce them, should call in, if possible, the aid of some friend who has a practical knowledge of printing, as the processes by which books and newspapers are printed are all applicable to leaf printing.

The operator should procure a spoonful of printer's ink and with a case-knife spread a small quantity over half the surface of a marble slab about a foot square. When spreading the ink on the slab, let it be confined to one end of it, not letting it cover more than half the stone. Care must be taken not to allow thick streaks or ridges of ink, but to spread a thin film or covering as uniform as possible. As printing ink is a thick and paste-like compound which stiffens in cold weather, if the operation is to be performed when the temperature is low, the stone



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should be slightly warmed before the ink is laid on. The warmth will render the ink sufficiently fluid to operate in a satisfactory manner. If no marble slab can be conveniently obtained, then a smooth board, about an inch thick, may be substituted. The board will not require to be warmed.

When the stone has been supplied with ink as above directed, a roller is passed several times over it, until the whole surface of the roller becomes coated. It will take up the ink in unequal quantities—that is, more in one place than in another—with just as much irregularity as it has been laid upon the stone with the knife. This irregularity must now be remedied, and the ink distributed over the entire surface of the roller with absolute uniformity. This is quickly accomplished by frequently passing the roller to and fro over that half of the stone on which no ink has been spread. But in so doing, care must be taken to occasionally lift it from the stone and to give it a half revolution before again putting it down, so that its surface shall come in contact with new portions of the surface of the stone. By following these directions the ink will become distributed evenly over the surface of the roller, whence it will be transferred with corresponding uniformity to the delicate framework of the leaf, and will produce a perfect impression of its most complex vein-work. If the ink is not thus nicely distributed on the roller, the interstices in the leafy structure will become filled with it and the impression will present an unsightly blotch.

For taking impressions, thin letter paper will be found the best, if it be nicely glazed and free from ridges or water-marks. It should first be cut into pieces about the desired sizes, and then slightly sprinkled with clean water, say two or three pieces first. On these as many dry ones should be laid, and they sprinkled in turn, then more dry ones, then another sprinkling, and so on until the whole quantity has been sprinkled. Let the pile lie for half an hour, or until the paper has absorbed all the water.

Then take the pieces, one at a time, and turn them over, placing the first on a board, and the others on top of the first, but shifting them about as they are turned; that is, if a very wet end or corner is observed in one piece, turn the piece around so that the excessively wet places shall come in contact with dryer surfaces in the new pile. Be particular to smooth all wrinkles with the back of the thumb nail. If the paper has been made too wet, the accident can be remedied by interposing dry pieces between two wet ones. When the whole has been turned, put a slight weight on the pile to press all down smooth, as much depends on having the paper in perfect order.

Being now ready to commence the printing, a leaf is placed on a smooth board, with its under side uppermost, as there the leafy veins or ribs are more prominent than on the upper side. The roller having been charged with ink, it is rolled to and fro over the leaf until the latter is seen to have received a sufficient supply. Three or four times going over will generally be enough. Then lay the leaf with the inked side down, on the top sheet of the damp paper pile, and over it place a double sheet of dry paper, press on with the left hand so tightly that the leaf shall not move, and with the thumb nail of the right hand rub pretty hard over the whole leaf. This pressure of the thumb nail will transfer the ink on the leaf to the surface of the damp paper, and if the inking has been carefully done, a clear and distinct impression will be obtained. All the leaf impressions contained in this volume were taken for the engraver by the process described above.

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IT is almost impossible for the average female mind to confront unmoved the delightful possibilities now afforded by the many new and beautiful, yet inexpensive, articles of home adornment. The housekeeper has full scope to develop her taste, in both purchasing and making household elegancies.

It is not necessary to have costly furniture, expensive pictures, fine paintings, elegant draperies, or Haviland and Wedgwood wares to produce pleasant effects; but have the colors harmonize and have nothing too good to use. Violent contrasts should generally be avoided; yet sometimes, if well chosen, they produce a more pleasing effect than severe harmony. In the furnishing of a home, there is at present an æsthetic mania for adornment; but rich, warm colors, and handsome furniture always maintain their pre-eminence, however fashion may change.

The chief features to be observed in house-furnishing are color, form and proportion. All stiffness of design in furniture should

be avoided. Do not attempt to match articles, but rather carry out the same idea as to color and form in the whole. It is not *en regle* to have decorations in sets or pairs; the arrangements should all be done with odd pieces. Every room in the house should be arranged for occupancy, having nothing too good for use, and the judicious housewife will follow a medium course and adopt no extreme of fashion.

The style and arrangement of the furniture should correspond to the size of the room, with a due regard to the place a piece of furniture or ornament will occupy. The order of arrangement in furnishing is subject to individual taste, but the following suggestions may not be inappropriate:—

In decorating a dining-room, deep, rich tones should be used—a drawing-room or parlor should have bright, cheerful shades—in a library use deep, rich colors, which give a sense of worth—a sleeping-room or chamber should have light, pleasing tints, which give a feeling of repose.

#### The Hall.

The hall being the index to the whole house, due care should, therefore, be given to its furnishing. Light colors and gildings should be avoided. The wall and ceiling decorations now mostly used are in dark, rich colors, shaded in maroons, or deep reds. Plain tinted walls and ceilings in fresco or wainscot are also frequently used.

The latest shades of hall paper come in wood-colors, dark olive-greens, stone-colors and grays, in tile, Arabesque, landscape designs, and with these are used a corresponding dado and frieze.

A tile or inlaid wood floor is the most appropriate; but if circumstances do not admit of one of these, a floor stained a deep, wood-brown, baseboard and mouldings to correspond, may be substituted, when India matting and rugs may be used.

The colors now in vogue for hall carpets are crimsons, or Pompeiian reds, with small figures of the moss green and peacock blue. The prevailing shades of the walls and floor should be incorporated in the stair carpet.

If the hall is narrow, none but the most essential pieces of furniture should be used; but if wide enough, there may be a lounge placed against one of the walls, an old-fashioned clock, of the cuckoo style, set in a quiet corner, two high-backed chairs upholstered in leather, a table, an umbrella-stand placed near the door, a jardinier filled with tropical plants, set near the foot of the stairway, and a hall-mirror with a deer's head and antlers placed above it, and a wooden or marble slab underneath. The slab should be covered with a Roman scarf, allowing a fall of twelve inches at each end. The hat-rack must also find a place. Family portraits or a few well-selected pictures, are appropriate for these walls.

If the door-lights are not stained glass, lace shades in designs of birds, cupids and garlands of flowers are used; also etchings in various colors and designs are worked on different fabrics. Crimson silk shades, lined with black netting, are very desirable, as the light penetrating through them fills the hall with a rich, subdued glow.

#### The Parlor.

The furnishing of the parlor should be subject to its architectural finish. The first things to be considered are the walls and floor. The former may be decorated in fresco or papered, according to individual taste and means. The latest styles of parlor paper come in light tints of gray, olive, pearl and lavender grounds, and in small scroll patterns, panels, birds and vines, finished in heavy gold traceries, with dado and frieze to correspond.

The style of carpets mostly used are Brussels, Wilton,

Tapestry and Axminster. A tapestry carpet in light canary ground, with clusters of Lotus or Begonia leaves, makes a charming background to almost all the colors generally used in upholstery.

In selecting the furniture, the first thoughts should be given to its true worth. Chairs and couches should be chosen for comfort rather than for style. They should be of solid make, easy, graceful, and of good serviceable colors and materials. The most serviceable woods to select in frames are ebony, oak, mahogany, cherry and walnut. These frames are finished in different styles, plain, carved, inlaid and gilt, and are upholstered in all shades of satin, plush, rep, silk and velvet brocade, and India goods. These come at prices within the means of a slender purse. That slippery abomination in the shape of hair-cloth furniture should be avoided.

The latest design in parlor furniture is in the Turkish style, the upholstery being made to cover the frame. Rich Oriental colors in woolen and silk brocades are mostly used, and the trimmings are cord and tassels, or heavy fringe.

Formerly the parlor appointments were all in sets and pairs, but this fashion is no longer observed, as the most tastefully arranged parlor has now no two pieces of furniture alike; but two easy chairs placed opposite each other are never out of place. Here may stand an embroidered ottoman, there a quaint little chair, a divan can take some central position, a cottage piano, covered with some embroidered drapery, may stand at one end of the room, while an ebony or mahogany cabinet, with its panel mirrors and quaint brasses, may be placed at the other end, its racks and shelves affording an elegant display for pretty pieces of bric-a-brac.

Marble topped center tables are no longer in use. Tables in inlaid woods, or hand painted, are used for placing books and albums on. A small airy-looking table, elaborately mounted in

gilt, may stand near a window or wall. The mantel mirror, with its beveled edges and small racks arranged on each side, looks very effective when decorated with pretty oddities—ferns, grasses and pieces of old china. A jardiner filled with living plants and placed near a bay window, makes an elegant ornament.

Care should be taken in arranging that the room is not overcrowded. There should be a few good pictures, or painted plaques mounted in plush, hung on the wall; a portrait may be placed on a common easel, and draped with a scarf in old gold or peacock blue, and tiny lambrequins, painted or embroidered, may hang beneath a bracket supporting a bust or flower vase.

An embroidered scarf with fringed ends may be placed on the back of a chair or sofa in place of the old-fashioned lace tidy.

A sash made of small pieces of bright colored plush or silk in crazy work may be flung across the table, the ends drooping very low. The mantel-piece may be covered with a corresponding sash, over which place a small clock as center piece, and arrange ornaments on each side—statuettes, bannerettes, flower-holders, small Japanese fans, pieces of odd china, painted candles in small sconces, may all find a place on the mantel.

Window curtains of heavy fabric, hung from brass or plush-mounted poles, may be gracefully draped to the sides, while the inner lace ones should hang straight and be fastened in the center with some ornament or bow of ribbon, corresponding in shade to the general tone of the room. The straight shades next to the glass may correspond in tone to the outside walls, or window facings; but this is a mere matter of taste. White or light tinted shades, finished in etching or narrow lace, are always in vogue.

The dado shades are the latest innovation in window decorations. These come in all colors, from the lightest to the darkest shades, with dadoes in tile, Arabesque, and fresco patterns, finished in lace, fringe and brasses.

*Portieres* (curtain doors) have superseded folding doors.

These should be in shades to contrast with the general blending of all the colors in the room. The fabrics mostly used are India goods, but they may be made of any material, from expensive tapestries, satins and plushes, to ten-cent factory cottons. These curtains, if made from striped tapestry and Turcoman, will give the finishing artistic touches to almost any room, but the last softening polish comes only from the genial presence of trailing and climbing vines.

The preceding suggestions for furnishing and arranging a room will be found of value to most of those who are making homes for themselves; but the following suggestions may be practicable to those of smaller means:

"I have known a young man," says an authority, "who had but twenty-five dollars to furnish his room, and he made such a *den* that no one could enter it without envying him. The room was entirely bare when he took possession. The first thing he did was to take down the common-place marble mantel. Being handy with tools, he built one of white pine, with a high, broad shelf and several smaller shelves, the whole covering the chimney-piece. Then he painted the wood-work black, and the brick a dark red. A pair of andirons cost him a dollar and fifty cents. The walls he colored a Pompeian red, in calcimine; two pieces of plain olive green wall paper furnished the dado. Pine strips painted black made the mouldings, and above this were tacked Japanese fans for a frieze. Now for the floor! A carpet was impossible, so the next best thing was to stain the floor. Two pounds of stain were bought for sixty cents, and the floor received two good coats. A thick bright-colored rug was bought for seven dollars, and looked exceedingly pretty when laid on the dark floor. For window curtains he bought dark brown Canton flannel at twelve cents per yard, and finished with a dado of old gold Canton flannel. The curtain poles and window were painted black. For five dollars he bought an old

cabinet, with innumerable shelves and brasses, battered and stained by time and use; this he polished up with the aid of an old felt hat, pumice stone and linseed oil, for the small cost of thirty cents, and an old mahogany table, bought for three dollars, was treated in the same manner. This was covered with Canton flannel the same shade as the curtains, and trimmed with a band of old gold fabric. An old-fashioned mirror, the gift of his grandmother, was placed above the mantel, with peacock feathers stuck all around it. A pair of brass candlesticks from his grandfather, did duty as mantel ornaments, with a neighboring pair of Japanese vases which cost twenty-five cents. A few engravings and one or two etchings hung on the walls, the frames of white pine shellaced, and each cost, without the glass, thirty cents. Japanese fans were placed on the walls at irregular intervals, and made bright bits of color. For fifty cents apiece he bought three battered up chairs, which he painted black and yellow in imitation of black and old gold. The gas fixture in the room was an unsightly object, but a new one was out of the question. Again Japan came to the rescue, and a rose-colored umbrella was purchased and fastened on to the pipe, handle upwards, so that when the gas was lighted it threw a delicate roseate hue over all who sat beneath.

"The window was filled with Alpine plants, and the walls and pictures festooned with ivies and creepers.

"The effect of the room was exceedingly pretty, and no one could believe that it had not cost a large sum of money to furnish and arrange it."

#### *The Sitting-Room.*

The sitting or every-day room should be the brightest and the most attractive room in the house.

Its beauty of decoration should not lie so much in the richness and variety of material, as in its comfort, simplicity and

the harmony of its tints—the main feature being the fitness of each article to the needs of the room. In these days of so many advantages much can be done in adornment by simple means.

The wall-papers mostly used come in grounds of cream, umber, rose, pale olive, fawn, ciel blue and light gray, with designs and tracteries of contrasting hues.

The carpet, if in tapestry, looks more effective in grounds of pale canary or light gray, with designs in bright-colored woodland flowers and borders to match. The new ingrain carpets, with their pretty designs and bright colors, are very fashionable for rooms that are much used.

Whatever may be the prevailing tint of the carpet, the window curtains should follow it up in lighter tones or contrast with it. The curtains may correspond with the coverings of the chairs, sofas, mantels and table draperies in color and fabric. If the furniture is of wicker, bamboo or rattan, the curtains should be made of Japanese or any kind of Oriental goods. Curtains of muslin, either white or tinted, gay colored chintzes, lace, or dotted Swiss muslin looped back with bright toned ribbons look very pretty, and are appropriate for the sitting-room at almost any season.

That clumsy structure, called the cornice, for putting up curtains on, has happily given place to the more light and graceful curtain pole, which comes in plain and ornamental woods, brasses and nickel, with rings to correspond. The latest styles are covered with plush.

One large table, covered with a pretty embroidered cloth, should be placed in some central location for a catch-all. A low divan with a pair of square soft pillows, may stand in some quiet nook; a rocker, handsomely upholstered, with a pretty tidy pinned to its back, a large, soft, easy-chair, a small sewing-chair placed near a work-table, and a bamboo chair trimmed with ribbons, will be tastefully arranged in the room.

Window-stands and gipsy-tables may be draped with some rich fabric, the surrounding valance being caught up in small festoons and fastened with bows or tassels, finished around the edge of the table with cord or quilled ribbon.

If the furniture is old, or in sets, it can be covered with different patterns of cretonne or chintz, which not only protects the furniture but breaks up the monotony and lends a pleasing variety to the room. A Turkish chair is a grand accessory to the family-room; this may be made by buying the frame and having it upholstered in white cotton cloth, and covering it with a rich shade of cretonne, finishing it with cord and fringe; this makes a cheap and a handsome looking chair to fill up some angle.

A foot-rest frame can be made in the same way and covered with a piece of home-made embroidery, finishing it off with a cord or narrow gimp around the edge. Home-made easels, screens and pedestals may be made out of black walnut, and when stained and draped look exceedingly pretty. An old second-hand cabinet may be bought for a trifle, and when polished up may be set in a corner, on which to display some pieces of bric-a-brac.

If the house has no library, the sitting-room is just the place for the book-case. An old superannuated cupboard may be fixed up in such a way as to make an elegant book-case. Knock off the doors—and if there are too many shelves take out one or two of them—paint the inside a deep red, or cover the sides and shelves with deep crimson cloth, and fasten with brass upholstering nails. On these shelves put your books, or any ornaments such as vases, pieces of odd china, mineral specimens, brass ornaments, or anything quaint and pretty. Curtains can be arranged on a rod to draw across the opening. A few of these tastefully arranged things give an air of comfort and luxury to a room, hardly to be compared to the small amount expended.

An ordinary stone jar, such as is used for pickles, may be painted in some dark shade and decorated with either Boucher or Watteau subjects; these, if of symmetrical shape and tastefully decorated, make very pretty ornaments.

Some family portraits and a few steel engravings may hang on the walls. A bunch of oats, a sheaf of wheat or a cluster of preserved autumn leaves, tied and suspended by a ribbon under a picture frame, looks exceedingly pretty.

The mantel mirror may be decorated with peacock feathers, pampas plumes, ferns and grasses, and the shelf covered with some drapery and filled with different ornaments. A great vase filled with plants and mosses may be placed on each side of the grate, and the fire screen takes its place at a short distance.

Some people would think it a poorly furnished room if it didn't contain several card tables—pretty little tables, inlaid in cloths of different hues. People who are fond of games stock their table drawers with cribbage and backgammon boards, cards of every variety, bezique counters and packs, and the red and white champions of the hard-fought battle of chess.

These tables and games should be one of the attractions of the family sitting-room. This room is also well adapted for the window garden, where an abundance of climbing and trailing plants may be grown from boxes and brackets. The climbers may be Japanese woodbine, climbing over a doorway; the Madeira vine winding around a mirror or picture frame; the family of ivies may be trained to adorn an easel or pedestal, while the Vinca with its pale blue flowers, the Trailing Arbutus with its rich tinted foliage and pretty pink blossoms, and the lovely little Kenilworth Ivy, all droop and trail among the window drapery.

With the windows and walls festooned with vines, they form an effective background for such bloomers as the Carnation,

Fuchsia, Geranium, Petunia, Bouvardia, Heliotrope, Abutilon and Calla.

A room of this character, with floods of sunshine, makes a most attractive and comfortable living room.

#### The Library.

The walls should be hung with rich, dark colors, the latest style in wall-paper being a black ground with old gold and olive green designs.

The carpet comes in Pompeian red with moss green and peacock blue patterns. Statuary and the best pictures should find a place in the library. The library table should be massive and the top laid with crimson baize. There should be a few high-backed chairs upholstered in leather, a reading chair, soft rugs, foot-rests, a mantel mirror, a few mantel ornaments, and the *piece de resistance*—the book-case. In large libraries the book-cases are built in the wall. It is quite in vogue to hang curtains on rods in front of book-cases, instead of doors, but we think the old style is the best, inasmuch as the books may be seen, and the glass doors exclude the dust.

Heavy curtains of raw silk, Turcoman and Canton flannel, with a full valance at the top, are used for the window drapery.

#### Chambers.

The walls should be decorated in light tints and shadings, with a narrow rail and deep frieze.

Most housekeepers prefer the rug and oiled floors to carpets, but this is a matter of individual taste. Rugs are as fashionable as they are wholesome and tidy. These floor coverings should be darker than the furniture, yet blending in shade. If carpets are chosen they should be in the lightest shades, and in bright field-flower patterns. Avoid anything dark and somber for the sleeping-room. Pink and ciel blue combined is very pretty;

scarlet and gray, deep red and very light blue, dark blue with sprays of Lily-of-the-valley running through it is exceedingly pretty for bed-rooms.

Dark furniture will harmonize with all these colors, but the lighter shades are preferable. Cretonnes in pale tints, and chintzes in harmonizing colors, are used for light woods. Square pillows of cretonne on a bamboo or wicker lounge are very pretty. Canton matting is often used, either plain or in colored patterns.

Formerly the bed coverings were spotlessly white, but the affluent tide of color has included these also. The coverings now in vogue are Nottingham lace, darned net, applique, antique lace and Swiss muslin; these are used over silk and silesia for backgrounds, and are exceedingly pretty, with pillow shams to match. Cretonnes, chintzes, dimities, and silk in crazy work or South Kensington patterns are also used.

Cheese cloth, bunting, Swiss muslin, cretonne and Swiss curtains are used for window drapery; these may be trimmed with the same fabric or antique lace. They are hung on poles above the windows and draped back with ribbons.

The appointments of a bed-room are a low couch, a large rocker, a small sewing chair, a work basket, foot-stools, a toilet table prettily draped with muslin, or a dressing case, brackets for vases, flower pots, a few pictures, small tables, hanging shelves for books, etc., and the bed.

The washstand should have a full set of toilet mats, or a large towel with a colored border may be laid on it; also a splasher placed on the wall at the back of the stand is very essential. If the room has no mantel a shelf can be arranged very prettily with mantel draperies at very little expense. Canton flannel makes a pretty shelf valance, if etched or embroidered.

A screen is a very desirable part of the bed-room appointments, especially if there is no dressing-room. The three-leaf

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folding Japanese screen—or a less expensive one may be made by getting the frame made, then covering it with cloth or thick paper, and decorating it with Japanese figures, flowers, or anything that fancy may suggest—is very pretty.

A rug should be placed in front of the bed and dressing-case, to save the carpet, and pretty wall pockets filled with flowers, ferns, or mosses, may be placed on the walls with good effect.

#### The Dining-Room.

The dining-room should be furnished with a view to convenience, richness and comfort. Choose deep, rich grounds for the walls—bronze, maroon, black, Pompeian red and deep olive—and the designs and traceries in old gold, olive or moss green, with dado and frieze to correspond. But in these days of modern improvement the dining-room walls and ceilings are wainscoted with oak, walnut, maple, etc. Some are finished in plain panels with different kinds of wood, others again are elaborately carved in fruit, flowers, and emblems of the chase.

This somber style of wall finish is very handsome if the room commands a sunny situation; but if on the dark side of the house, a generous share of gilding to throw up lights and brighten the room is very desirable in the wall decorations.

The floor is the next point for consideration. It may be of tile or laid in alternate strips of different colored woods, with a border of parquetry. Rugs or carpets may be used on these floors, or dispensed with, according to taste. If a carpet is used, the dark, rich shades found in the Persian and Turkish designs should be chosen.

The window drapery should be those deep, rich colors that hold their own despite time and use—the pomegranates, the rich crimsons, the dark blues, the dull Pompeian reds and the soft olives. These curtains may be hung on poles, and should fall

in heavy folds to the floor, then looped back with a wide embroidered dado.

Screens of stained glass are now used in the windows; they are both useful and ornamental, for they exclude the strong rays of the sun, and the light filtering through them beautifies the room with its many mellow hues.

Dark woods should be used for the furniture; the chairs should be chosen in square, solid styles, and upholstered in embossed or plain leather, with an abundance of brass or silver-headed nails, which are used for upholstering leather and add much to the substantial appearance of the articles.

The dining-table should be low, square or bevel-cornered, heavily carved, and when not in use should be covered with a cloth corresponding in shade to the window drapery. The border may be embroidered in some æsthetic design—a handful of scarlet Poppies dropped on one side, a corner adorned with a cluster of languid Lilies, and a Sunflower wrought in old gold and umber may be left on another corner. Pretty designs in etching may also be introduced, and the cover finished with a heavy fringe.

A buffet may stand in some corner for the display of ceramics or decorated china. The sideboard should be of high, massive style, with shelves and racks for glassware and pieces of china; when convenient, it is built in the wall, after the Gothic style of architecture.

There was a time when the dining-room looked like a picture gallery; but the prevailing fashion now confines the number of pictures to two or three small fruit pieces and one or two plaques of still life. A Japanese scroll may hang on the doors with good effect, and a painted panel is very appropriate for filling a vacant corner.

Here the fire-place with its many appointments may be displayed to good advantage. The grate with its accompanying

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brasses should be polished to the highest degree of brightness. The mantel cabinet with its small bevel-edged mirrors, numerous racks and tiny cupboards, is just the place for all the trifling oddities that would not be appropriate in any other room. All the knick-knaeks, from grandmother's spinning-wheel to the finest marine and mineral specimens, may be set on these diminutive shelves.

A case of stuffed birds, a few large pots of tropical plants and a fernery are in keeping with the dining-room appointments. A three-leaf, folding Japanese screen should not be forgotten; also a lamp-shade of antique lace lined with crimson silk is very desirable.

While speaking of the different rooms we must not forget to take a peep into the kitchen. It is a remark too often made that this or that "is good enough for a servant." We take a decided stand against anything of this kind, and wish to be known as a friend to the servant. If all knew that unpleasant surroundings made unpleasant servants and illy prepared meals, we think more pains would be taken to have pleasant and comfortable kitchens. There should be a pleasant window or two through which fresh air and floods of sunlight may come, a few plants on the window sill—for plants thrive better in the kitchen than in any other room in the house—a small stand for a work basket, an easy chair that the servant may "drop into" when an opportunity offers, the walls painted or calcimined with some beautiful and cheerful tint, the wood work grained, instead of painted in some dingy color, as is usually the case, and a general air of comfort pervading the whole kitchen, as well as the parlor. She who aims at making the kitchen pleasant seldom has dissatisfied servants. Good and faithful servants are the best friends of a family; it is they who prepare our meals and administer to our wants, and it is but human that their surroundings be made pleasant. We have often noticed, too, that

those who take pleasure and pride in making their apartments as cheerful as the means allotted them will allow are the ones who give the best satisfaction. We can recall an instance where the kitchen windows were so filled with beautiful plants, and the floor and wood-work so scrupulously white and clean, that the lady of the house often remarked that "her girl" had the most pleasant room in the house, and that she was always so cheerful and happy while going about her duties that she almost envied her.



THE universal popularity of window gardens, whether large or small, simple or elaborate, from a few flower pots of Pansies on the workman's window to the fernery and Wedgewood jardiniere of the artistocratic mansion, is the evidence of a growing and permanent taste for flowers and ornamental plants in all circles of society.

There are a great number of designs for window gardens, such as the window box for evergreens, ferns or ornamental plants, the hanging basket, the jardiniere, handsome bulb-glasses, the fernery, flower stands, mantel-shelf gardens, etc., etc., which are of great variety and tasteful construction.

### The Exposure of the Window Garden.

A good location or exposure is desirable. Those plants which love the shade, such as Pansies, Sweet Violets, some of the variegated plants, etc., will grow and bloom if not placed directly in the sun's rays; but the sun is the great invigorator in the way of growth and bloom and a healthy appearance generally, and only those plants which love the shade will prove at all satisfactory without this tonic. All the exposures for plants that vary from the east to the west, and even a little to the northwest, may be included as available for window gardens. The east and south, with the exposures between them, are, of course, the best for some plants, but for others the western and northern windows are used with better success. A northern window is used chiefly for Ferns, Alpine plants, some species of Fuchsias, and to winter shade-loving plants. Among the lists given for various exposures the following will be found useful:

For an eastern, or from that to a southern exposure, may be cultivated the Bouvardia, Zonale Geranium, Cactus, Begonia, Oxalis, Lily-of-the-Valley, Salvia, foliage plants, Nierembergia, Amaryllis, Narcissus, Rose, Cobæa Scandens, sweet scented Geraniums, etc.

For sunny windows the Abutilon, Rose, Iris, Calla, Hyacinth, Passion Vine, Cyclamen, leaf plants, Azalea, Cineraria, Lilium Auratum, Daphne, Chinese Primrose, Heliotrope, etc., are used.

In western windows may be grown to good advantage the Amaryllis, Calla, Zonale Geranium, Cineraria, Heliotrope, Fuchsia, Vinca, Wax Plant, German Ivy, Winter-blooming Pink, Tulip, Hyacinth, Lilium, etc. Some of these plants flourish in all the exposures. Moisture is one of the most important considerations for house plants, as the dry air of the average living room is fatal to their bloom and beauty. A geranium or two in an ordinary kitchen generally has greener leaves

and a richer show of blossoms than the plants in more luxurious quarters, for the simple reason that the steam of cooking supplies the moisture needed, and the constantly opened door the proper ventilation.

The larger the windows, the better for growing plants, bow windows being particularly adapted for this style of floriculture.

#### Ferneries.

Ferneries offer to us the simplest of all means of household plant culture. The advantages of these small glass cases for plants are numerous. They occupy very little room, are usually ornamental enough to be placed on any table or parlor stand, and when once filled, they need little or no attention for many weeks, require no unusual care as to watering, can be easily removed from one room to another, and are not as quickly affected by changes of temperature as plants in the open air of our sitting-rooms.

The soil for fern cases should be carefully attended to; no common garden earth will answer, but get it from the most reliable florist if possible—and even some of these may not know exactly the needs of the plant.

An authority in the *Floral World*, speaking of soils, says:

“For the fern case, mix equal parts of silver sand, good loam, powdered charcoal, and refuse of cocoanut fiber. Cover the bottom of the pan with a layer of powdered charcoal, or bricks or rock broken to the size of hazel nuts, to the depth of one inch; then lay the soil over this, and press firmly that all the plants may set solidly.”

Fern cases may be placed in almost any situation. They may be shifted from one window to another at will, with little fear of dangerous consequences. A half shady position is much better than a sunny one, while a northern outlook will suit them admirably, if not too cold.

In arranging plants for the fern case, care must be taken to place the largest growers in the center, and the smaller ones at the sides. A great number of woodland plants may be chosen. The Climbing Fern, *Lygodium palmatum*, is very suitable, and can be usually found in shady or moist spots; it is also very desirable for rock work.

The Partridge Vine, *Mitchella*, is also invaluable, for its brilliant scarlet berries enliven the sober green of the ferns or form an excellent contrast with the mosses.

The Trailing Arbutus, with its gorgeous foliage and waxy pink flowers, is one of the choicest for this purpose. The Maiden-Hair fern is also a great favorite; it may be found on most sheltered hill-sides, or away in some deep, moist woods, and may be known by its black, hair-like stems and curiously shaped fronds. Gold Thread, with its delicately cut foliage, and Linewood, with its blue blossoms, will form pretty features. Many other treasures may be transplanted from the woods to the fern case with perfect safety.

Plenty of the green, native mosses should be packed around the roots of all these plants, to help keep up a cool, wild, woody retreat. The Ostrich Fern, Brocken, Maiden-Hair, Lip Fern, Spleenwood, Woodsia, etc., also Begonias, Caladium, Marantas, Cacti, Seelum and Orchids may be added.

#### Hanging Gardens.

Hanging or basket gardens form our simplest styie of window ornament. They need very little care and their chances of success are almost certain.

The directions for culture are very simple. Choose porous pots or vessels, which may be encased in artistic frames (the directions for making these will be given further along in our work) for in non-porous vessels, where all side ventilation is cut off, plants will not thrive so well. The soil becomes sodden and

the roots are liable to decay. Fill the bottom of the basket to the depth of an inch or two with small pieces of charcoal for drainage; some place a coarse sponge in the bottom if the basket is deep, to drink up the surplus moisture, and yet keep the soil moist by giving it out again. The best soil to use is composed of one-third river sand mixed with dark loam and leaf mould; or soil from around pine trees is most excellent for baskets. If the basket becomes very dry from excessive heat, it is better to place it in a dish of water for half an hour. Thus treated, the roots suck up a copious supply and need not receive any more for two or three days.

The devices for making hanging baskets are nearly endless. Open wire baskets must be filled with moss first, then a little soil in the center and the plants added afterwards.

Large sea shells—nautilus or conch—will hold soil enough to support trailers, and make elegant window ornaments. Holes may be bored through the edges, and cords fastened in them to hang by. The rind of the Gourd and of the scallop Squash make elegant baskets for drooping plants. Halves of cocoanut shells, in their natural state or embellished, are also very pretty; these may be filled with Lycopodiums, Lobelias, Tradescantia and Moneywort.

Begonias, Coleus, Geraniums, Ivy, ornamental grasses and quite a variety of other flowers are appropriate for baskets.

The Morning Glory, *Convolvulus mauritanicus*, is a highly ornamental plant, of drooping, half shrubby character, with a profusion of elegant blossoms, admirably adapted for vases or baskets. It continues long in bloom, and its porcelain-like blue blossoms are conspicuously beautiful. A very unique basket may be made by filling a wire basket-frame with moss, then hiding away small bottles filled with water in the moss; in these put the stems of Ivy, Partridge Vine and Ferns. The branches of the Partridge Vine will hang over the side of the basket; the

Ivy will twine its arms around the cords, drooping in dense festoons at the top, and the Ferns will grow in graceful profusion in the center. The most popular favorites for drooping vines are the *Convolvulus Minor*, Honeysuckle, *Nasturtium*, *Sedum Sieboldii*, Periwinkle and *Smilax*.

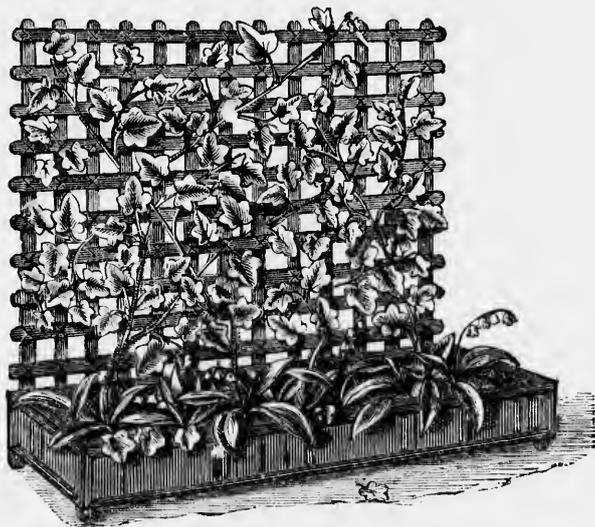
In arranging a basket, do not crowd in too many plants of upright growth. Usually one erect plant of showy appearance should be used, such as a *Begonia* or a bright-flowering *Geranium*; around this set the different varieties of lower and more compact growth, and around the edge plant both the climbers and trailers. *Fuchsias*, *Heliotropes*, *Carnations*, *Verbenas*, the *Cyclamen* with its valuable foliage, the popular *Geranium* and many others may find a place in the hanging basket.

For home decoration there is no plant that equals the English Ivy, *Hedera helix*. It accommodates itself to all temperatures, save that below freezing, and when in full growth it adds more grace to the window than any other plant yet mentioned. A single root has been known to wreath a bow window with thick garlands, and then strike off into lovely, independent paths along picture cord and above cornices, till the walls were covered with it. It will cover a screen of wire, curtain a window, festoon a pillar, frame a favorite picture, climb and twist about a mantel-mirror, drape an easel, and droop over statuettes its dark, ever-green leaf and by its loveliness add to them all an increased beauty.

#### Portable Screen of Ivy.

The screen here illustrated makes a very beautiful and useful article for the living room. A common window garden flower box is made the length required, and mounted on castors. A number of laths of wood, as long as the screen is to be high, must be placed upright at intervals all along the box, against the back of it, and resting on the bottom of it. Nail them in

their places. A number more laths, as long as the box is wide, must now be fixed across these, beginning with the first an inch above the box. Fix it across by two tacks, one at each extremity, and to every upright lath with fine flower mounting-wire, uncovered. When all the laths are on, a trellis-work is formed, which may be observed through the foliage in the cut. It



PORTABLE SCREEN OF IVY.

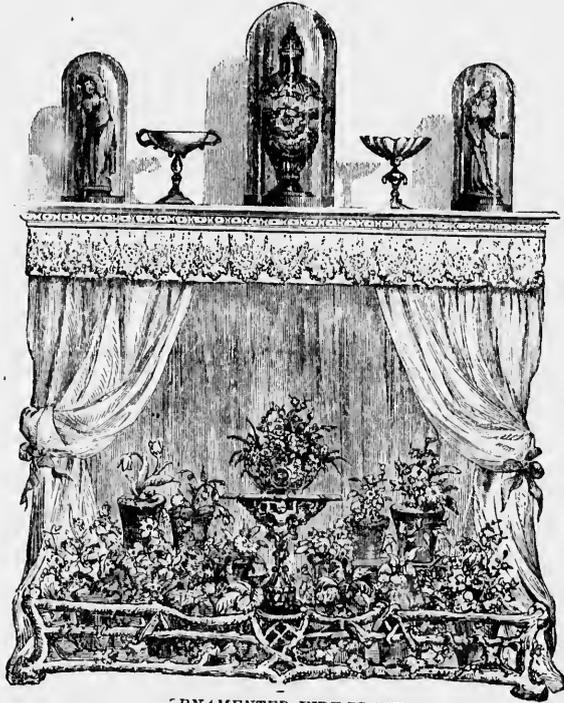
should be painted green; when dry, the box is filled with the same soil as used in the fern case and set with Ivy plants, which will cover the trellis completely as they grow. The front of the box should be set thickly with Lily-of-the-valley, or scented Violet roots, or sown in the summer with Mignonette. This screen and box, without the castors, may be fixed outside a window which has a bad look-out and not only hide this from view but prove a very handsome object in itself.

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## Ornamental Fire-Places.

It is frequently desired to ornament fire-places, when not in use during the summer. An elegant way of doing this is as follows: Order a piece of looking-glass, in a plain gilt frame,



ORNAMENTED FIRE-PLACE.

and fit it in as a chimney-board; displace the steel fender and use a rustic one; inside of this place a tin, painted green, and charge with flower-pots containing plants in bloom. From the mantel hang point lace in deep vandykes mounted on silk, edged with a narrow silk fringe, the prevailing color of the

furniture. Curtains of fine lace, lined with colored tarlatan or thin silk, may be looped each side with good effect in the sleeping apartments, while for the dining or sitting-room they should be made of cloth or velvet, the prevailing color of the room. The annexed illustration shows the disposition of these adornments.



ANY persons who have never given art a thought are nevertheless influenced by the charm of pictures, engravings, handsome buildings, the magnificent productions of industry, without knowing why! They have the poetic intuition for art; they are sensible to the beauties of nature, which speak to them a language unknown to the mass that are less refined and less easily impressed.

For the instruction of such let us begin at the initial element of Ceramic Art—the potter's wheel. Nothing can be more curious or more astonishing than to follow the work of an experienced potter through all its phases. First, he places a lump of clay on the upper slab of his wheel, the motion of which is regulated at will by means of the impulse given by his foot to the large parallel slab below, and the vase grows as if by magic from the tips of his fingers. How many various shapes appear and succeed each other as the wheel revolves! He

accomplishes all by the intervention of a sponge and water and the skillful pressure of the fingers, used with judgment.

The lump of clay has at first a simple and massive form. It rises into a cone, is hollowed out to give it capacity, and, getting thinner by degrees, it becomes elegantly curved. The flower-pot is turned into a bottle or decanter; suddenly a movement dexterously performed with a flat knife makes another object succeed to the decanter, which now becomes a bowl. This bowl, compressed in its lower part, rises on a thin stem, and by a new transformation becomes and remains finally a cup, a few seconds having sufficed for all these metamorphoses.

The potter's wheel is the simplest, one of the most necessary, and ancient implements of man's industry. The ceramic arts owe to it their greatest development throughout the entire world. It offers us a lively image of the creative power of man. By the help of a simple tool, and in an exceedingly limited space of time, he can fashion the rough, inert material and impose on it the forms created by his imagination. The fire will continue his handiwork; by firing the moist dust will become stone. Amateurs and artists will then take possession of the work to embellish and decorate it. They also will create.

To create a work of art, what an ineffable pleasure! How much happiness there is in ornamenting, in decorating your home yourself with the colors, the forms, and the objects you like best!

When you have bought an ornamented service in a shop, you have already borne testimony to the superiority of your taste. But your money alone has procured you a satisfaction, which is common enough after all—that is, eating out of another's dishes—only those who have painted and decorated their own services can truly be said to eat out of their own dishes. How much more valuable, then, will these objects become whereon you have put your own work, and which you keep round you or give as

friendly presents to those you love or by whom you are beloved—objects that no one else could procure at any price.

Let us then follow the march of progress; let us popularize art. No more exclusiveness, no more trade secrets! Make room for art in the family circle, and let it take a seat by the fireside.

Our ideals in art are continually rising, and by perseverance only can we hope to scale the summits of true art. Observe the old adage: *Labor omnia vincit* (Labor conquers everything). Some of the greatest painters, of both the old and modern schools, owe their high rank more to perseverance than to the inspiration of genius.

Drawing and coloring require observation, knowledge, skill, and, above all, *taste*. Thought must also be included, as much for form as for color, which are inseparable. In painting there is thought in the selection of the principal subject, and art consists in giving it interest and beauty. A noted French author has said: "Beauty is the art of choosing and hiding." Let us never forget this great precept, which is the fundamental basis of all æsthetic knowledge.

#### Materials Required.

A table. It is easy to transform almost any table into a pottery painter's bench; all that is required is to add a long and narrow board, called a rest. Fixed outside the table, at a right angle, the *rest* furnishes a support for the artist's right arm.

Have on the table a small easel, a color box, a glass palette, a China palette with recesses for the colors, a steel palette knife, a horn or ivory knife (these are to take up the colors with), a small muller, a box containing lead pencils, three lithographic crayons, one porcupine quill, a scraper, and red sable and camel's hair brushes. In another compartment will be kept vegetal tracing paper, black, red and blue transferring paper,

gummed paper for sticking, three small drop bottles, some soft cambric or old cotton rags, and a stick of modeling wax to fix the prick tracings and transferring paper.

Whirling tables for describing lines. These may be bought ready for use of any dealer in artists' materials.

The studio of a painter on porcelain should have a good light; that from the north is preferable. The table should be set in the best possible situation, so that the artist when at work may have the light come from the left, and thus not be hindered by the shadow of the hand at work.

Absence of dust and the most scrupulous cleanliness are urgently recommended for successful work. Great care should be taken to avoid dampness, especially that which comes from an open window, while it is raining. Dampness is unfavorable to the mixing of colors with a palette knife, as the mediums employed do not amalgamate well with the colors, and they remain lumpy beneath the brush; the painting, under these circumstances, does not glaze in the firing, which is a serious fault.

#### To the Amateur.

The decorator will take a seat at the table, on which are placed all the requisites for China painting. She should sit rather high and far back in the chair, so as to be supported by the back. The work being long and minute, it is necessary that the body should be at ease, and that none of the members should suffer from an awkward position. She can also paint at the easel, which permits her to work either standing or seated, but for that she must have already had some practice in painting, for firmness of hand is required to paint in this way, and this method is greatly preferable for good effects.

Seated before the table, on the inner side of the *rest*, which is placed to her right, the amateur leans her forearm on it,

acquiring by this a firm and free handling of the brush for her working hand, while her left hand, resting on her left knee—the foot placed on the stool—supports the piece to be decorated, when it is of large dimensions, and presents to the brush, one after another, the portions of the surface to be painted on.

For painting on tiles, as well as on hollow articles, it is important that the hand should rest on a flat or a round ruler, in order to allow the brush only to touch the China, and never the hand, as any such paint might rub off and spoil all the work you had taken much trouble, and in many cases much time, to do.

Place on the easel the original to be copied, and nearer to you the object to be decorated. On your right set the glass slab, upon which are the three small phials containing spirits of turpentine, spirits of lavender, and oil of turpentine. To the right of the slab set the box containing the crayons, pencils and brushes. On the other side of the object you are painting set the color-box containing the tubes, and at a safe distance from your work place a phial containing a small quantity of spirits of wine. These, with a small cambric rag retained near the slab, finishes the arrangement of the table, and the decorator is now ready to begin her work.

#### Tracing.

If the decorator can draw well, she will outline her subject lightly on the object she wishes to paint, directly without tracing, by means of lithographic chalk, the point resting on the index finger, care being taken not to lean hard, as it is very brittle. This chalk being greasy, should be rolled up in paper or placed in an ordinary porte-crayon. It draws on China without any preparation, and its false marks can be wiped off with a brush slightly moistened with water, or with a dry rag.

When you want to make a minute and complicated drawing,

you are obliged to transfer to avoid getting double lines on the China; but before transferring, prepare your piece of ware as follows: Pour a few drops of oil of turpentine on the plaque, or white plate intended for decoration, then take a small pad formed of pieces of rags of fine material, soaked with two or three drops of rectified spirits of turpentine. Pass this rag round and round over the entire surface, so as to leave a sort of film, very thin and misty, which you allow to dry by exposing to the open air for a few minutes; the object of this operation is to render the tracing visible; you may also have recourse to it to get stronger marks from lithographic chalk. It is very easy to trace on a perfectly flat surface. We shall mention several ways.

*Tracing by Rubbing.*—After having traced from the engraving or original model to be reproduced the outline of your subject (figure, ornament or landscape), with one of Gilbert's H. B. black lead drawing pencils, you reverse the tracing paper, and go over the outline again on the reverse side with the same pencil; this being done, prepare your piece of China with the medium, as we have just described. The vegetal tracing paper is then fixed by means of little lumps of modeling wax on the exact spot the subject is to occupy; and when this is done you have only to rub all over the outline with an ivory knife to make the lead that is on the vegetal tracing paper convey itself distinctly upon the previously oiled enamel.

*Tracing with a Tracing Point.*—Take either black, blue, or carmine transferring paper, according to the tint of the painting that is to be done. The carmine gives security for the success of the painting; it does not soil it. When the piece of paper has been rubbed with carmine from a soft crayon, after taking great care to remove what is superfluous, it is cut to the size of the subject, or rather to that of the space you are to paint on.

To make sure of tracing on the exact spot, you must draw a horizontal line in the middle of your drawing, one also in the

middle of the tracing paper, and one as well on the porcelain, with crosses and letters at each end as landmarks—two crosses marked *A* and *B* on the horizontal line of the enamel, and two crosses marked *a* and *b* on the horizontal line of the tracing paper. Prepare your piece with oil of turpentine or spirits of wine. At the end of two or three minutes place your drawing on the porcelain in accordance with the marks  $\times a$  and  $\times b$ , taking care to place the middle lines so they coincide, *a* on *A* and *b* on *B*. You fix the vegetal tracing paper by means of small bits of gummed paper, or else with little balls of modeling wax. The sheet of tracing paper being quite firm, you slide beneath it the piece of paper rubbed with carmine, blue, or black lead. You then take a porcupine quill with a fine point, and, without leaning too hard, go over all the outline. You must be careful not to press your fingers on the drawing, as this would cause a deposit of powder, the same color as the transferring paper, upon the enamel and thus spoil the result. Before finishing all the work, lift up a corner of the overlaying papers to see if the tracing marks. It will be but an affair of habit to trace well, for it is by experiment frequently repeated that one comes to know exactly the amount of strength to be used so that the transferring paper may mark sufficiently.

*Prick-tracing.*—This consists in pricking the outline with small holes, and in making what is called a *Poncis*. This can be done by placing the vegetal tracing paper on some cloth, folded several times, with a piece of white paper under the drawing. Prick all the pencil lines with a needle of medium size; when this is done, turn the piece of white paper and with a smooth piece of pumice stone smooth away the projections caused on the wrong side by the prickings of the needle; after which you place it on the China, securing it with lumps of wax, and rub it over with a pad full of scraped conte-crayon, or powdered carmine. The outline thus becomes dotted over the sur-

face, and you have only to proceed with the painting. This is an admirable method for beginners.

#### General Remarks.

For transferring on dark grounds, instead of conte-crayon or black-lead, you may use starch, carmine, or vermilion in powder,—substances which are clearly perceptible on the dried coating of oil of turpentine.

If the tracing has moved, or if, forgetting, you have passed the point over a line a second time, making it double, take the handle of one of your brushes which you have cut to a point, and wetting it, you will be able to remove the useless marks by rubbing them gently. It would be better to keep a very thin stick of whitewood for this purpose.

You will make use of the same means to correct drawings done in lithographic chalk; and this chalk has the advantage that it marks again on the place where the wet piece of wood has passed, whereas on China prepared for black lead, the pencil no longer marks, the stick having removed the preparation while correcting the lines.

Experience has proved that paintings progress under greater advantages when the porcelain and faience have been prepared with a few drops of spirits of wine. The preparation with oil of turpentine, being a fatty substance, attracts dust and thus does mischief to the paintings. So little liquid is used that it is better to have it of the best quality. But great care must be taken to cork up the little bottle of spirits of wine hermetically, or the contents will speedily evaporate.

The brushes and dabbers, after each day's work, should be cleaned in spirits of wine. To preserve these useful instruments it is indispensable that no color be left in them after using; care being taken to wipe them well after this washing, and even to blow a little on them to make the spirits of wine evaporate, for

if any were to remain it would spoil the color of any subsequent painting.

With a few drops of spirits of wine the most loaded palette can be instantaneously cleaned and the dryest painting effaced, and for this reason we recommend that it be kept far away from you during your work, for if a single drop were to fall on the painting it would immediately smear and obliterate the work done.

### Color.

The second step in painting, after tracing, is coloring. Somber tints are seldom admitted into compositions on porcelain. Freshness, brilliancy, and delicacy of coloring are rather the qualities the intelligent artist seeks to take advantage of; she gives a proof of her talent and pleases the eye by the harmony of her tints, obtained by juxtaposition, or by mixing. This harmony is, moreover, a study of great importance to the amateur, and may be pursued with interest by all, as it is common to all kinds of painting.

*Complementary* colors generally agree well together, whether placed side by side, or round about as in backgrounds, when one of them is darker or deeper in tone than its neighbor.

Here we give a list of these colors according to the natural order of the solar spectrum:

The complement of red is green.

The complement of yellow is violet.

The complement of blue is orange.

The complement of violet is lemon yellow.

The complement of orange is blue.

The complement of green is red.

The complement of indigo is ochre.

The complement of black is white.

To the artist the word *complementary* signifies that if you

place, for example, some red on white ground, that red produces on the eye an influence which casts a green tinge on all that surrounds it, or is in its immediate vicinity; and, *vice versa*, green throws a red tinge. Red has a greater intensity by its neighborhood to green, and green is strengthened in brilliancy by being near red.

The more luminous the colors are the more this contrast of complementaries is perceptible. By experimenting on each one of the simple colors in the above list, one will easily comprehend it. Two bands colored with two complementary colors, placed side by side and looked at in the sun, almost hurt the eye at the line of their contiguity.

It is well to place colors on different backgrounds. It will be seen that black grounds lighten the colors placed on them, and that white grounds, on the contrary, give them more force, or darken them by heightening the value of their tone. All decorations on white grounds should be executed rather pale, in order to avoid harshness.

By following up these experiments the following inferences will be confirmed: Carmines go well with water-green; sky blue always goes well with pale orange; dark blue with deep orange; turquoise with violet blue. Purple, which partakes of blue, goes well with warm ochrous shades and yellow. Grays go well with every color.

In decorations, where ornamental foliage has to be shaded, a good effect is obtained by contrasting cold lights with warm shadows. We call *warm shades* or *colors* those which partake of red, the ochres and yellow; and *cold colors* those which partake of black or blue. *Broken tints* are the simple primitive colors containing gray. Simple colors mixed with gray are also said to be broken.

The mineral paints bought in tubes are the colors which stand fire,—those of Lacroix, of Paris, being considered the best.

These colors can be obtained in different states; ground in dry powder, extra ground, or in metal tubes containing the color diluted with the necessary mediums and ready for use. We append a list of the colors:

*Special Colors for Grounds.*

|                       |                   |
|-----------------------|-------------------|
| Coral Red,            | Isabella,         |
| Chinese Yellow,       | Light Coffee,     |
| Copper Water-Green,   | Lavender Blue,    |
| Chromium Water-Green, | Chamois Brown,    |
| Carmelite             | Reddish Brown,    |
| Celadon,              | Turtle-Dove Gray, |
| Fasible Lilac,        | Turquoise Blue,   |
| Grounding Green,      | Mauve,            |
| Maize,                | Rose Pompadour,   |
| Indian Blue,          | Salmon,           |
| Marine Blue,          | Turquoise Green,  |
|                       | Celestial Blue.   |

The colors for backgrounds are of special composition and manufacture. They cannot be mixed with the colors for painting, as they are not fired at the same heat.

If a ground is to accompany some decoration (whether flowers, figures, or landscape) for which you want a white place kept to paint on after the firing of the ground, begin, before laying the ground on, by transferring your design on to the white; go over the outline with Indian ink or carmine, and wash the whole of it with water. The general laying of the ground is done next over every part, covering all, as if the tracing and the wash of water had not been done; dabble and leave it to dry. As the water-color outline is perfectly visible beneath the tint, the surface of which has been well smoothed, take some Lake, in tube for oil painting, set it on a glass slab and add to

it a few drops of oil of cloves or spirits of lavender. With this preparation cover an entire flower or a leaf, as far as the outline (if you have chosen a floral design); then with a muslin rag, starting from the contour towards the center, wipe away the color of the ground, moistened by the Lake, and the silhouette of the parts to be preserved white appears very clearly. You continue to regain successively the parts wherever some white of the enamel is wanted, so that the removal of the reserved spaces with the Lake is completed in a very short time. The background is then fired at a gentle heat, called fixing heat, and afterwards the painting on the white enamel may be executed, and fired over again when all is washed in properly.

There are some grounds laid with unmixed color and others of which the tones are composed. It is the decorator's business to choose the color and shade most suitable to her subject. Some colors for grounds are already prepared, and others are brought to their shade or color by laying on two coats; thus the first coat is often prepared of a beautiful light yellow. It is fired the first time, and for the second firing a coat of carmine or purple is laid over it, which gives a vermilion or an orange red that could not be obtained by mixing or by a single coat. The same rules may be applied to other colors; but it is well for the amateur to practice it on defective plates, used as tiles for testing.

In a smooth sky, starting with pale yellow and graduated by imperceptible degrees into blue, the blue may be laid directly and allowed to die away on the white of the China, the darkest part beginning at the top and becoming graduated by thinning, which is very easily done with a dabber. It is fired to fix it, and after this gentle firing the yellow is laid, which is also graduated with a dabber, beginning at the bottom, in such a way that when the white of the China has disappeared the sky may be fired with the rest of the painting.

By making an outline in water-color which is not removed by the influence of the medium, you may dabble on any object, since you are sure to find again the place whereon you wish to apply other tints. Removal of color in the course of the execution of a work, done before firing, with bits of whitewood carved to a point, or with a flat edge, affords the landscape painter charming resources for foliage. We shall now append a list of the mixing colors :

#### Whites.

White is obtained by Permanent white (for high light) and Chinese white, a color of very limited use in painting, it being preferable to keep the white of the China when possible.

Permanent white, alone or mixed with other colors for heightening, which is called *heighted light*, or *relief*, requires perfect grinding. It should be tried by repeated and well-fired tests before using it for important works. It is lifted up with the point of the brush and laid without spreading. It could not bear two firings; it is put at the second firing, which is always less powerful.

#### Blues.

Sky Blue, Light Blue, Blue Verditer, Barbeau Blue, Cobalt, Prussian Blue, Indigo.

Blues are much produced from cobalt, and as the mixtures of cobalt and iron produce proportionable tints, varying from light gray to black, it is well to take precaution in painting when blues are used with reds, fleshs, browns and ochres; care must be taken that the brushes used for these be thoroughly and properly cleaned before using them for blues.

#### Carmines and Purples.

Light Pink, Purple Lake, Chinese Pink, Crimson Lake, Red Purple, Crimson.

Carmines must be put on very thin lest they should turn yellow in the firing, and little oil must be used to avoid shriveling.

When purple is added to pink, a few drops of lavender or oil of turpentine must be used.

In the first painting, carmines and purples are to be laid on very lightly; it is only for the second firing that strengthening touches are made.

#### Lilacs and Violets.

Lilac, Mauve, Magenta, Violet, Light Pansy, Deep Pansy.

The same precautions are required in using lilacs as for carmines.

#### Reds.

Capucine Red, Poppy Red, Madder, Venetian Red.

Red is a predominant color, and is generally used alone. Thus the reddish tips of green leaves are obtained by placing the red next the green, and not by putting it over; but with dark colors, on the contrary, it is the red that disappears.

#### Yellows.

Lemon Yellow, Saffron Yellow, Salmon, Straw Color, Yellow Lake, Dark Chrome Yellow, Light Chrome Yellow, Indian Yellow, Naples Yellow, Orange Yellow, Maize.

Light yellows scale off very easily in the firing; the dark yellows, being less fusible, need to be used moderately thin in the first painting, for the first fire develops them; at the second firing they increase in depth, and if they are too heavily loaded they cannot be made lighter again. Avoid using yellows next to blues, which would produce a green tint.

#### Greens.

Emerald-stone Green, Water Green, Veronese Green, Malachite, Blue Green, Dark Green, Sap Green, Emerald Green.

Yellows mixed with different blues give a great variety of greens. If these greens are found to be too bright, or too prominent, they may be made grayer by adding either carmine or purple. For foliage it is well to remember that dark tints shaded into light ones destroy the latter in firing. All the greens, whether in foliage or in drapery, can be shaded with browns, reds, and carmine tints. By painting over for the second fire, foliage can be made purple or bluish. Blue greens are used for the distance, but must be laid on excessively light, and tinted with Capucine red for the horizon.

#### Browns.

The artistic browns for China, and which resist the action of the fire well, are Golden Brown, Vandyke Brown, Raw Sienna and Orange Mars.

#### Blacks.

Raven Black, Ivory Black, Iridium Black—which answer all purposes.

#### Greys.

Dove Color, Ash Gray, Pearl Gray, Russet Gray, Brown Gray.

A gray of some kind may always be obtained by mixing complementary colors—reds with greens, or yellows with violets, violet being a combination of carmine and blue. The greys obtained by mixing greens with carmine and purple are generally used in flower painting.

#### Choice of Porcelain.

There are two kinds of porcelain for artistic decoration, *hard paste* and *soft paste* porcelain. Hard porcelain favors the manufacture of articles of the utmost delicacy. Among the innumerable wonders of the Sevres manufactory are cups and saucers almost as thin as an egg-shell, and slightly transparent.

The enamel of the Sevres porcelain is thin, so as to permit the decorator a higher degree of finish, which would lose somewhat of its clearness if the enamel were thicker. The plaques manufactured for painting by the trade have a rather handsome but thicker enamel, which favors the successful glazing of the colors.

It is, therefore, very important that the decorator should well ascertain the effects produced by applying the colors on each kind of China, and making trials or tests, in order to learn to bring about, by combinations and thorough knowledge of the work, united with a view to the firing, the results so much desired—a very beautiful glazing joined to brilliancy and harmony of coloring.

The porcelain chosen for painting should be as white as possible, its borders very clean, without any breach in the enamel at the edges, which would spoil the gold lining and burnishing.

Porcelain marked with black specks, or having other visible defects, must be put aside if it is impossible to conceal them in backgrounds or in the center of ornaments, where the paint lying over them would prevent them from being as objectionable as if they were on a white ground.

The articles for decoration may include dinner services, coffee, tea and breakfast cups, bowls, vases, ash pans, candlesticks, sleeve links, bon-bon boxes, jewel boxes, plaques, *reliquaries*, *girandoles*, flower stands, and round trays for fancy tables.

#### Styles for Porcelain.

There are several styles in painting. The beginner will know from her previous studies, her tastes and aspirations, that which she ought to adopt. She should provide herself with authentic models, to guard against mixing styles. The public is becoming enlightened, and faults of this nature are more and more perceived.

It is also very important not to depart from the style special to each ware—porcelains, faïences, etc. On hard paste porcelain are painted heads, figure subjects, animals, still life, flowers and fruit, landscapes, Arabesques, the Chinese and Japanese styles, heraldry, and ornamented monograms.

Especially on porcelain of the Sevres manufactory the choice of subjects is much restricted. By conforming with the following suggestions, a value and a stamp will be given to your production.

On plates, flowers with brown backgrounds are to be painted. On small cups, light flowers, Watteau subjects. Long plaques mounted in old silver for sconces and female figures, after Raphael, in gray mono-chrome, will make charming objects.

#### Styles for Faïence.

The coarse nature of faïence does not admit of as careful painting, or as high finish and as true a tone, as that on porcelain. Its clay is not fine enough, and its enamel alters certain important colors. The faïence clay being more porous than that of porcelain, the management of the work must be modified so that a single firing may suffice. For this reason you must wash in and let it dry; retouch it and again let it dry. Finish by strong touches; then have it fired.

The styles which suit it best are animals, still life, large landscapes, marine subjects, mono-chromes, and armorial bearings.

The chance of a piece firing well is one of the great trials of the China painter; but the miniature kiln, which may be bought for a trifle at any first-class China house, enables the artist to fire small articles of decorated China with perfect success.

The amateur has to make up her mind to a great many failures at first, but after the art is understood it is an inexpensive and elegant addition to Home Decorations.



BRONZING is the latest improvement in wax work, and if properly made, cannot be detected from the most expensive artistic Bronze. It answers for Table, Mantel and Bracket ornaments, and may be exposed to dust and air without sustaining the slightest injury. It can be dusted with a feather duster like any piece of furniture, and is a very desirable and inexpensive ornament.

The colors required in bronze are: Silver Bronze, Gold Bronze, Copper Bronze, Fire Bronze and Green Bronze.

#### *The Art of Making a Vase in Bronze.*

For instruction, let us take a Vase to be finished in Copper Bronze. First the vase must be moulded. The casting material is one part wax, one part spermaceti, two parts mutton tallow. Melt the three articles together and color with Burnt Umber. Have a coil of fine hair wire, cut it into one-half inch lengths, and when the mixture is melted to the consistency of thick cream, stir in the cut-wire by degrees until there is a sprinkling of it throughout the mixture, then pour into the elastic mould and let stand till perfectly cold and solid, then loosen the sections of the mould and take it out; should any of the ends of the wire project, they can be cut with a pair of sharp scissors (the cut wires make the vase much stronger, and prevent it from cracking). Trim the seams caused by the sections of the mould; then take a piece of soft flannel cloth, dip it in refined spirits of

turpentine and polish the vase with it, after which it is ready for Bronzing.

Take Copper Bronze No. 4000, and with the tinting brush bronze the vase evenly, and polish it in with a soft piece of white silk. Next, take another brush and with Copper Bronze, No. 6000, give it the last coat. The vase is now ready for draping.

The most simple drapery is an ivy vine. Take an embossed ivy leaf (or embossed muslin leaves, as they are named), lay a fine wire along its mid-rib, leaving two or three inches of wire for stem; cover the leaf with brown sheet-wax, press them together well with the finger and thumb to make the wax adhere to the leaf, get the impression, and hold the wire firmly; then lay another piece of wax on the under side, press the edges together and cut away the superfluous wax, leaving the edge plain (the ivy leaf is not serrated), cover the wire stem with wax and the leaf is ready for Bronzing. Rub both sides with turpentine, give one coat of Bronze No. 4000, then the last coat of Bronze No. 6000. When all the leaves are finished weave them into a spray, grading them from large to small till the end of the vine is reached, then bronze and drape around the vase in an easy, natural way.

The natural fall leaves pressed, make pretty draperies for these kinds of vases. Sprays of mixed leaves, oak leaves and acorns, small maple leaves, the holly leaf and berry, mixed ivy and fern leaves, and many other kinds of leaves and vines, are equally pretty.

#### The Art of Making a Motto in Bronze.

Take a box-frame of the ordinary motto frame size (gilt face), and line it with either Crimson or Royal Purple Velvet, and it is ready for any design.

The word "WELCOME" is the simplest to begin with. Take a thick blotting pad, lay it on a table, rub some arrow-root or

rice powder over its upper surface and lay a sheet of either Calla or Pond Lily wax, *extra thick*, on this powdered surface. Select the style of letter preferred; German text is very appropriate for the motto, "Welcome." Cut the pattern letters out in paste-board or any kind of thick paper, if tin letter cutters are not convenient.

Begin with the capital letter W. Lay it on the sheet of wax and cut out the waxen letter after the pattern with a penknife previously dipped in water. Next cut out the E and so on till the seven letters are cut out, care being taken to powder the blotter every time a new sheet of wax is laid on.

Lay the back of the box on the table, have melted glue ready, and with a camel's hair brush apply a small portion of it to the back of each letter, as it is set in its relative position, pressing it gently against the velvet with the palm of the hand. The letters should be set an inch apart, and when all on the frame should be put away until the glue is thoroughly dry and the waxen letters adhere firmly to the velvet, then they are ready for ornamenting. This is done in various ways, and all depends on the artist's taste, but a few suggestions may not be amiss.

Take a two-inch Fern cutter, and cut the Ferns out of double sheet wax, then bronze them (as directed), on both sides, either with Gold or Silver Bronze. Begin with draping the letter W. Take the stem end of the Fern leaf and with the bead end of the curling pin fasten it to the lower side of the letter, then turn it over and fasten it down in the middle, letting the point turn outward.

Set the ferns on the letters in such a way as not to obscure their form, *i. e.*, the form of the letters. If the motto is made in white wax, it should be frosted with diamond dust.

A pretty style of motto is clasped hands in the center, of pure white wax, surrounded with sprays of fine flowers and buds, finished in Fire Bronze.

Another style of motto is a vase in the center, from which vines in different colors of bronze run. Green, Fire and Copper Bronzing should have a light background; Silver and Gold Bronzing should have a dark background.

#### The Art of Making a Floral Basket in Bronze.

Take a medium sized basket (chip or any solid substance), brush it with glue on the inside, fill it with moss and set it away to dry till the moss is stuck to the basket. The moss should be raised in the center in the form of a mound. Have the wax sheeted in Carmine, make the center of the basket in Roses, Rosebuds and Carnations, as they are the most durable, mould the petals over the embossed muslin petals and bronze them with Fire Bronze Nos. 4000 and 6000, as previously directed. Drape the basket and the handle in Smilax, having the wax for the Smilax sheeted in Chrome Green, then mould over the embossed muslin leaves, bronze in Green Bronze and drape loosely. Such a basket makes a pretty table ornament.

#### Directions for Bronzing.

All kinds of ornaments may be made in bronze—small animals, fish, shells, birds, statuary, etc. The mixture for casts should be the same shade as the bronze used.

*Fish* may be bronzed in Silver, Gold, and Copper Bronze.

*Shells* in Silver, Copper, Gold. and some may be tinted with Fire Bronze on the exterior of the shell; but the interior of almost all shells must be tinted with paint.

*Dogs* in Zinc, Silver, and Copper.

*Birds* in almost any shade.

#### Green Bronze Statuary.

Prepare the mixture in Chrome Green No. 1; a little rosin may be added and a thick sprinkling of cut wire; trim the

object and rub with spirits of turpentine; then apply the Green Bronze, the two numbers as directed.

#### Copper Bronze Statuary.

Prepare the mixture in Burnt Umber, and proceed as directed.

#### Bronzing Statuettes.

Statuettes, or any object in plaster of Paris, may be made to resemble bronze by first rendering the plaster non-absorbent with drying linseed oil and then painting it with a varnish made by grinding waste gold-leaf with honey or gum water.

Another method is by first painting the article, after it has been rendered non-absorbent, of a dark color made of Prussian Blue, Yellow Ochre, and Verditer ground in oil. Before this becomes quite dry, bronze powder of several colors should be dusted on those most prominent parts which may be supposed to have worn bright. Plaster casts may also be made to resemble bronze to a certain extent by merely brushing them over with graphite, which is a brilliant black lead.

#### Method of Making Embossed Muslin Leaves.

Take a piece of green muslin, or calico, and size it well with isinglass; then take the natural leaf, lay the sized piece of muslin over it on the under, or veined, side of the leaf. Let the muslin remain on it till almost dry and the impression is set; then, with a pair of sharp scissors, cut the muslin around the leaf, either plain or serrated.

The impression may be taken of any leaf or flower in this way. The use of muslin leaves tends to make the work more durable, and is found very convenient for the artist.

## The Art of Making Exotic Leaves.

*Begonia Rex*.—The *Begonia Rex* makes a beautiful parlor plant. Five or seven leaves make a nice sized plant. Select five or seven healthy *Begonia* leaves of different sizes, as no two leaves of the *Rex* are of one size on the same plant. Cut the leaves closely off the stem and immerse them in a solution of cold water and castile soap; leave them in this twelve hours before using. Melt the wax to the consistency of cream, in Chrome Green, Permanent Green, Dark Olive Green, and Verdigris Green. Now take a leaf out of the soapsuds and lay it on a marble slab, keeping the under surface, or veined side, uppermost; then with a camel's hair brush lay on the melted wax in different shades, following the shades of the natural leaf. The soapsuds having made the leaf transparent, all the shades and spots can be plainly seen on the veined side, which is the side the waxen leaf has to be formed on. The belt of light green, over the silvery markings of the leaf, should be put on with Verdigris Green. Begin the leaf in the center and continue on each side of the mid-rib till the edge is reached and the leaf has a thick coating of wax. Then lay a wire along the mid-rib or center of the leaf, fasten it in the wax by pressing, care being taken to leave it long enough for eight or nine inches of stem. Wires must also be laid on all the side-ribs, or veins leading to the mid-rib. These small wires are all brought to the center wire and laid evenly by its side till they all come to the stem, where they are all twisted around it to form one long and thick stem. Give the leaf another coating of Dark Olive Green wax—this covers the wires—then finish with a thin coating of Burnt Umber tinted with Vandyke Brown, and the under surface of the leaf is finished. Remove the natural leaf from the waxen and tint the veins lightly with Carmine. Brush a little Carmine loosely on the darkest shade in the center of the leaf, and before

it sticks blow off as much as possible, when enough will be left to give it that reddish-green tint peculiar to the Begonia Rex leaf. The next is to finish the silver belt, or silvery leaf markings, midway between the center and the edge of the leaf. This strip must be rubbed with spirits of turpentine, then with the tinting brush apply a coating of Silver Bronze Nos. 4000 and 6000, care being taken that the bronze does not scatter over the leaf. Now the leaf is finished.

If the work is done according to directions, the waxen leaf will be a true copy of the original. Continue in the same way till all the leaves are made, then wax the stems and run them through the Begonia stemming, when they may be arranged in their natural growing manner in a flower-pot filled with moss; or, if preferred, the flower-pot may be filled with wax, in *Terre Verte Green*, and the stems must be placed in it before the wax gets hard. The latter makes a firm support for a Begonia plant.

#### How to Make Begonia Stemming.

Procure the bristles of a very young pig, five or six weeks old. After washing, put them in a strong solution of chloride of lime and let them remain in it till whitened. Then rinse well in warm water till free from chlorine. Color them while damp, some in different shades of green and some in different shades of brown. After the bristles are ready, the next thing is to make the stemming. Take a square piece of cambric and fasten it in a stretcher, then give it a thick coating of mastic varnish, and when the varnish is dry, cut the cambric on a true bias, into straight strips of different widths, from an inch to two inches, and half a yard in length. Lay one of these strips on a table or some smooth surface, add another coat of varnish, then cover it with *Glaucous Green flock*, care being taken to leave a narrow margin bare on one side to lap under the other when the piping is being made. Dip the bristles in mastic var-

nish, sprinkle them thickly over the flock, and leave for twenty-four hours to dry. When thoroughly dry, revarnish the bare edge and turn it in underneath the other edge, thus forming the strip into a pipe, ready to receive the wire stems of the leaves. Brown and Crimson flock may be used.

For *Begonia Rex*, use Crimson flock; for the *Rubra*, use Glaucous flock, and for the *Palmata* use Brown flock. Very good stemming may be made by tinting Canton flannel, which has a very long nap or pile.

#### *The Caladium Fancy.*

This is a most desirable parlor ornament. The exquisite markings of its leaves in almost every variety of tint, require to be made carefully. Soak the leaves in soapsuds and proceed as directed. The melted wax must be applied with fine tinting brushes; and every tint and mark on the leaf followed accurately. The colors for a *Caladium* leaf are generally Permanent Green for the background of the leaf; Crimson Lake, Carmine, Rose Madder, Burnt Sienna, Cadmium Yellow, Verdigris Green, etc., for the markings. The wax must be colored with the tube paints. Wire the leaf and proceed as directed for the *Begonia*, add a few bronze tints in Silver, Gold and Fire. Bronzing adds greatly to the beauty of the *Caladium* leaf. The stemming may be made as directed for *Begonia*, without the bristles. Use Glaucous flock; ten or twelve leaves make a nice sized *Caladium* plant. All varieties of tropical plants may be made in this way.

#### *Geranium Leaves.*

*The Rose Geranium Leaf.*—This leaf is of a dark Chrome Green. Prepare the wax in two shades, dark Chrome Green and light, immerse the leaves in soapsuds for six hours, take one out of the soapsuds, and lay it on the marble slab; as there is neither shading nor marking on this leaf, all that is required is

to give it a coat of dark Chrome Green, thick enough to prevent the wires from showing, then lay the wires over the veins and coat them over with a light shade of green. Remove the natural leaf, and as the texture of the Rose Geranium leaf is rather rough, rub it over with green flock mixed with hair powder. This is an excellent leaf for beginners to practice on. The stems may be left different lengths.

*Geranium—Happy Thought.*—The color of leaf, yellow with green margin. Prepare the wax in two shades, pale Cadmium Yellow and Emerald Green. Immerse the leaf for an hour in soapsuds; take it out and lay it evenly on the marble slab, then coat the center in yellow and the margin in green. The wax must not be too hot, as the colors might run into each other and spoil the effect. Lay the wires over the veins, leaving a stem of a few inches; then lay the second coat on just the same as the first. Remove the natural leaf, rub the waxen leaf with spirits of turpentine, and bronze the center in Gold Bronze, and the margin in Green Bronze, finishing the leaf.

*Geranium—Distinction.*—The leaf is a dark green, Carmine veins and a narrow belt of deep black near the edge. Prepare the wax in two shades, deep Chrome Green and Lampblack. Soak the leaf for an hour in soapsuds, lay it evenly on the marble slab, and with a camel's hair pencil lay the black wax evenly over the black zone on the leaf and lay the green wax on each side of this zone. Then put the wires in, and give it the second coat. Remove the natural leaf and tint the veins with a very little Carmine.

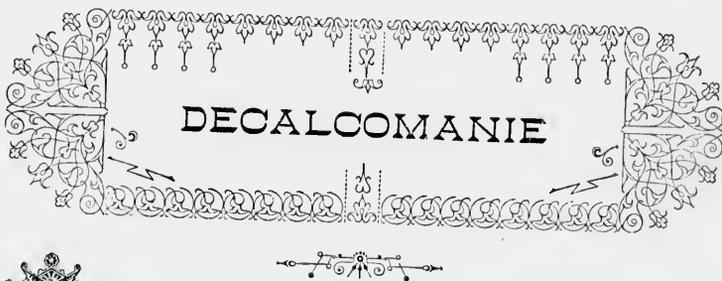
*Geranium—Lady Plymouth.*—The leaf is a greenish Carmine, and silver edged. Prepare the wax in deep Chrome Olive, and some in White; prepare the leaf, as directed, then lay the white edge of the leaf first, then the green. When the natural leaf is removed, tint the veins with Carmine, then mix Carmine and Burnt Umber together (in powder), dust a very little of it

on the green part of the leaf, and bronze the white part with three coats of Silver Bronze.

The best direction that we can give for the tinting and marking of leaves is to copy from nature. The Cyclamen leaf is well adapted for the practice of marking and tinting.

The leaf of the Pond Lily, Lotus, Canna, Maranta, Rubber Tree, Magnolia, Camellia, Orange, and all leaves which have a waxy surface, should either be varnished or bronzed.

All kinds of leaves may be made by the foregoing directions.



**D**ECALCOMANIE is another name for a style of decorating that has been in vogue an indefinite period of time and comes under the head of transferring. It is almost superfluous to mention the variety of purposes to which decalcomanie may be applied, as it can be transferred upon everything for which ornamentation is required, and the variety of designs which are printed especially for it is so great that something may easily be procured to suit the taste of the most fastidious.

A few of the articles that may be decorated can be mentioned by way of showing what a variety this style of ornamentation will embrace: All kinds of crockery, china, porcelain, vases, glass, book-cases, folios, boxes, lap-desks, ribbons, dresses, etc. The

method of transferring beautiful designs is so simple, and all the materials requisite for the art so easily procured, that it brings it within the means of everyone. Flat surfaces are more suitable than concave or convex ones for this style of decorating, for when the surface is curved the design has to be cut to accommodate the shape, and in this way is often spoiled unless done by the most careful and skillful hand.

The materials required are: Cement, copal varnish, designs, a duck quill sable and a flat camel's hair brush.

Cut your design neatly with a small pair of scissors, apply the cement by means of the sable to the article to be decorated, place on your design, and press equally over its entire surface to exclude the air; dampen it a little and keep pressing equally so that the design may adhere firmly in every part. When the cement is sufficiently dry, dampen again with water, a little more freely, and remove the paper. Be careful in manipulating this process, or you will remove some of the colored part with it. If such should occur, instantly replace it as well as you are able, or if you have a knowledge of Oriental painting your panacea will be in that. You can retouch with those colors, and bring it back nearly to its original beauty. In case you have no knowledge of Oriental painting, match the colors as nearly as possible with water-color paints, allow time to dry, and varnish with copal.

Sometimes the cement becomes too thick for use. It may be restored to its proper flowing consistency by placing the bottle in a bed of warm sand, and can then be applied while warm.

If you apply your design to a dark groundwork, it would be desirable to give your picture a coating of Winsor and Newton's Chinese white. The reason for this is that some parts of the picture are semi-transparent, and these would lose their brilliancy if transferred directly upon a dark background, without first painting.

*To Transfer on Wood.*

Dissolve some salt in soft water, float your engraving on the surface, picture-side uppermost, and let it remain about an hour. The screen, box or table on which you wish to transfer the design should be of bird's-eye maple, or other light-colored, hard wood, varnished with the best copal or transfer varnish.

Take the picture from the water, dry a little between blotters, place the engraving, picture-side downwards, on the varnished wood and smooth it nicely. If the picture entirely covers the wood after the margin has been cut off so that no varnish is exposed, lay over it a thin board, on which place a heavy weight and leave for twenty-four hours. If you wish but a small picture in the center of the surface of the wood, apply the varnish only to a space the size of your picture. Dip your finger in the solution of salt and water and commence rubbing off the paper; the nearer you come to the engraving the more careful you must be, as a hole in it would spoil your work. Rub slowly and patiently until you have taken off every bit of the paper and left only the black lines and touches of your picture on the wood, in an inverted direction. Finish up with two or three coats of copal varnish.

*To Transfer on Silk.*

Apply a coating of mastic varnish to the design and allow it to dry; then with a brush wash the paper surrounding the design, carefully; this removes from the paper the preparation, which would otherwise soil the silk. Apply a second coating of the same varnish, and when this is slightly dried, place the design upon the silk, or other fabric to be decorated, and with the roller press it well down. With the brush wet the back of the paper covering the design, when the paper may be at once lifted off. Another method is to cut out the design carefully and cover it with a thin coating of mastic varnish and lay it upon the silk, or other fabric, which should be dampened, and

roll thoroughly with a rubber roller; dampen the back of the paper with the brush and lift it off as previously directed.



THE pattern for a jewelry box here given is very pretty when arranged with fine fish-scales to form the leaves, butterflies, etc., as shown by the white figures of the cut. These may be gummed on, and the entire outside of the box raised until flush with the surface of



BOX IN JAPANESE WORK.

the scales by applying japanners' size. This is called "Japanese work." Jewelry or small boxes of all kinds, lap writing-desks, etc., may all be ornamented in this manner, by using decalcomanie, and made very beautiful.



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Art Needlework.



IN these days of æsthetic taste and the love for the beautiful, when embroidering is taken up so enthusiastically, and we hear so much about *art needlework*, conventional and natural designs, that the novice will naturally ask—what is meant by art needlework? What is the difference between a *conventional* and a *natural* design?

Art needlework is, in fact, only a revival of the ancient art of embroidery, and is founded upon the study of ancient models; and the word *conventional* in connection with designs for execution by the needle, signifies the method of altering natural forms in such a way as to render them suitable to the material upon which they are to be worked, and to the purposes for which they are intended.

The conventionalizing of a flower, leaf, or any natural object, simply means the use of its form in an arbitrary fashion, and that these objects cannot be represented in embroidery exactly

as they are in nature. But, as long as the question to be considered is one of material and color only, a sense of harmony and taste for simplicity will be sufficient guides, but in the matter of design some knowledge of art principles is necessary, at least it is desirable to understand the meaning of terms constantly met with in suggestions for decorative needlework.

*Transferring Designs for Kensington Work and Etching.*—

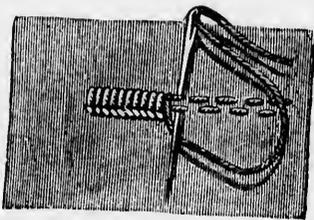
This process varies according to the nature and color of the material to be used. If the ground is light, a good way is to trace the design carefully upon tissue paper and fix the pattern flat upon the material, then, placing between them a sheet of carbonized paper, go over the pattern with a sharp metallic pencil, and the design will be accurately traced upon the ground. But occasionally, by this method, the color of the carbonized paper remains behind and soils the material, if it is freshly used. A piece that has seen service is safer to use if the material is delicate. To transfer on dark grounds another method must be resorted to.

*Pouncing.*—By this process the design must be drawn upon thick paper, and the outlines pricked through with a pin. When the pattern is pricked out, it is fixed face downward upon the material, and rubbed over with starch or fine powder, sewed up in a thin muslin bag; pulverized pipe clay may be used, rubbed on with a firmly-rolled piece of flannel or wad. Then carefully remove the pattern. A pen dipped in India ink, or a solution made of pipe-clay and gum arabic, will effectually trace out the pattern.

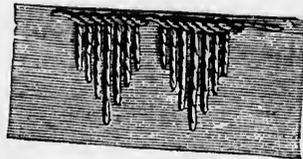
It is agreed by the best authorities, that in making embroidery the fewer and simpler the stitches used the better. The number and character of the stitches depend, of course, upon the design to be made, as some designs are much more elaborate than others, and require a great deal more work.

*Tent or Stem Stitch.*—This is the simplest stitch for beginners, and it consists of a long stitch taken forward, followed by a short one backward, and repeated, only the long stitch showing in the work.

*Blanket Stitch.*—Which is made exactly like the button-hole stitch, and is commonly used in edging materials. By



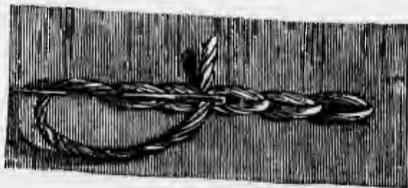
*Blanket, or Embossed Button-hole.*



*Border in Button hole Stitch.*

sloping the stitches in different directions and varying their length, a very pretty effect is produced.

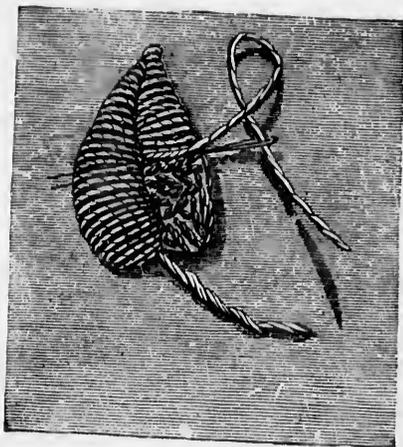
*Chain Stitch.*—This is one of the old-fashioned stitches, but it is still used to a great extent in embroidering mats, and for fastening down the edges of applique work, etc. The illustration (illustration at the side of reading) we have given, very clearly explains the manner in which this stitch is made.



*Chain Stitch.*

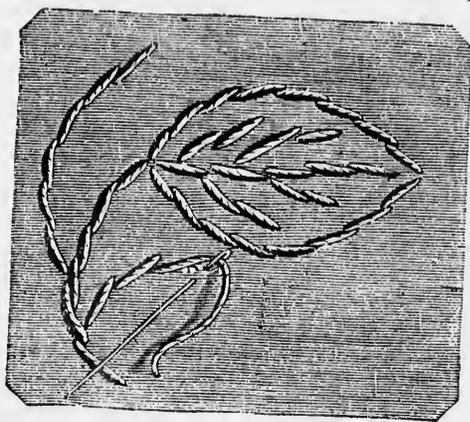
*Satin Stitch.*—This is a very popular stitch, and is suitable for work with embroidery silks, zephyrs, flosses and crewels. In

the first place the design is stamped on the goods and the whole surface of it well filled in with worsted or silk, and then the embroidery is begun. The work appears the same on both sides, as it is an over-and-over stitch that is used. Great care must be taken that the edges are even all round. The illustration gives a clear idea of the way the work is done.



*Satin Stitch.*

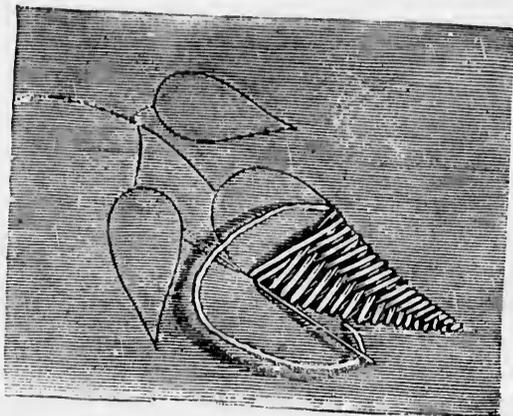
*Kensington Outline Stitch.*—This stitch is in reality the same as the stem stitch, only that by the insertion now and then of a stroke representing the folds of



*Kensington Outline Stitch.*

drapery and the veins of leaves, the unbroken outline is relieved. This is now recognized as the best stitch for embroidery work. The favorite designs for this stitch are foliage, butterflies and animals; they are usually made on satin. This stitch represents outline sketching with a pencil or crayon.

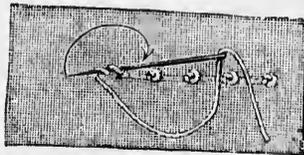
*Janina Stitch.*—In general outline this resembles the satin stitch, only the design is not filled in before the embroidery is begun, and the work shows only on one side,



*Janina Stitch.*

except where the short back stitch is taken along the outline. The needle should be inserted at the next to the last stitch, as shown in the illustration. It is suitable for toilet articles and table covers, or for any article where a surface stitch is required.

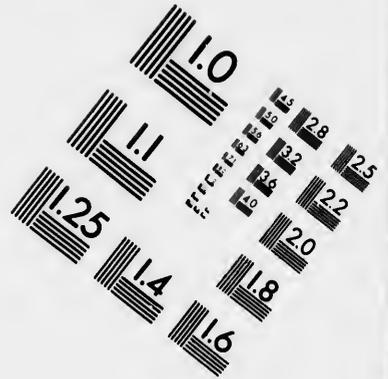
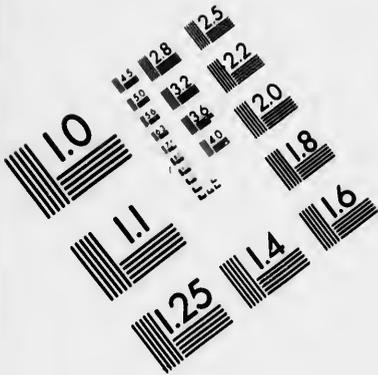
*Knotted Stitch.*—Is used in making ends of stamens, and the centre of flowers. The needle is brought through the material, and the floss wound around it once or twice, and it is again thrust through the material at the point where it was brought up.



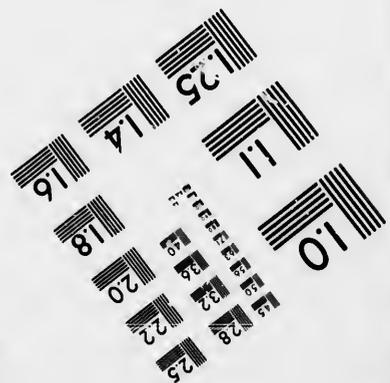
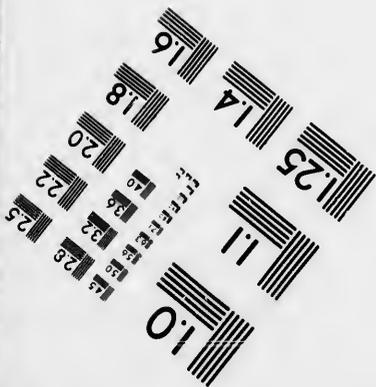
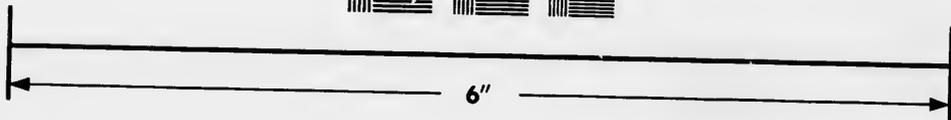
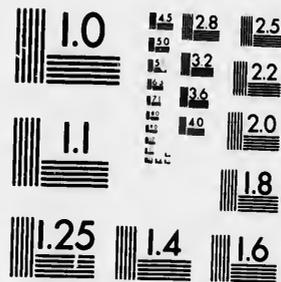
*Knotted Stitch.*

*Plush Stitch.*—This is a decided novelty in art embroidery. It is used in making golden rod, sumach, cockscomb, and prince's feather. The flower to be made is first filled in with the knot stitch of the prevailing color; a needle is then threaded with button-hole twist, brought up through the design between the knots, and a number of strands of filling silk placed over the design, close to the needle. The needle





**IMAGE EVALUATION  
TEST TARGET (MT-3)**



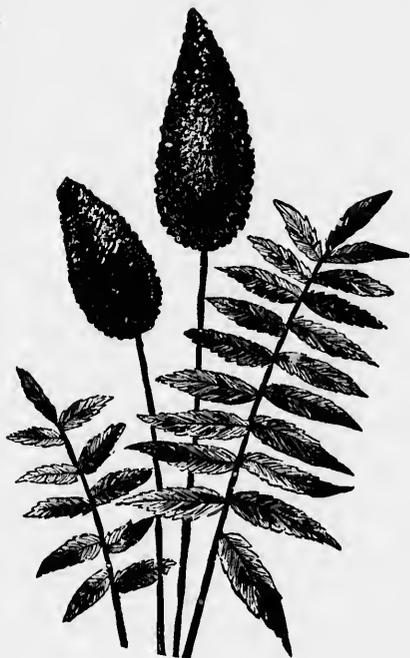
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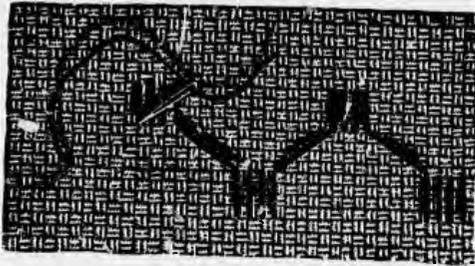
is then passed back through the design at about the same place it came up, catching the filling about a quarter of an inch from one end, so tightly as to cause the ends to spring straight up. The ends of the filling are then clipped with a sharp pair of scissors, and the operation repeated until all the knots are covered. With judgment and taste in the clipping and in the arrangement of the stitches, striking imitations of the flowers mentioned can be produced. The object of the knot stitch is to imitate the seeds in the flowers, which it does very faithfully. In making all of these flowers the utmost care must be taken in the selection of the materials, it being a matter of much importance



*Plush Stitch.*

that the flower be exactly true to nature, not only in color, but also in shape. The illustration presents a very pretty design for a tidy, or banner screen, in which the sumach is treated in the plush stitch. The leaves are worked in Kensington stitch and may be either green or in brilliant colors to represent the tintings which autumn gives them.

*Herring-Bone Stitch.*—This is also a very popular stitch, making a good appearance, and for this reason is adapted to a wide range of work. It is especially useful in taking the place



*Herring-Bone Stitch.*

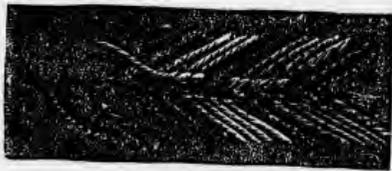
of the unsightly ridge made by a fell, and for joining seams. The illustration gives a clear idea of the way this stitch is made, which is, in this case, made so as to produce an ornamental effect.

*Basket Stitch.*—The method of making this stitch will readily be seen from the illustration. It is commonly used for borders, and for work on thin and transparent materials. Begin the work at the bottom of the subject, and work from you.



*Basket Stitch.*

*Feather Stitch.*—This stitch is worked in two colors, with very pretty effect. The illustration, which we give, shows clearly the method of working one variety of the feather stitch.



*Feather Stitch.*

*Wound Stitch.*—Is used for embroidering flowers having small petals, for small leaves and grain. The needle is first wound, and then the thumb of the left hand is placed firmly over it so as to hold it

into place, until the needle is drawn through and the coil brought securely into place. In making each kernel, only two stitches are required. The very small stitches at the ends of the kernels may be

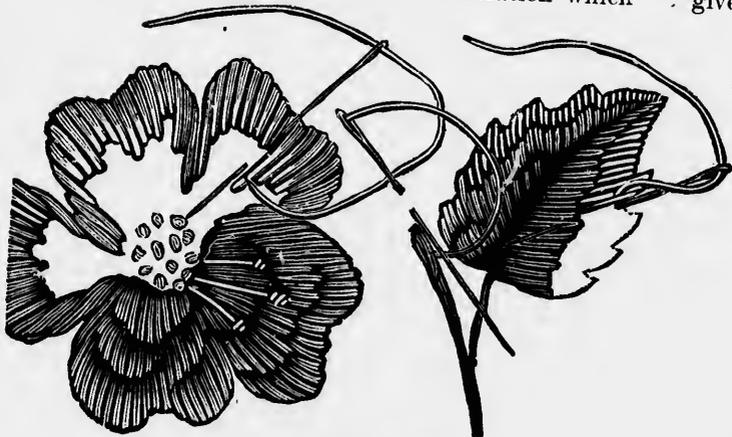


*Wound Stitch.*

lengthened to represent the barbs of real grain. See illustration.

*Cross Stitch.*—This is another kind of back stitch, in which the needle always points toward the left, unless there is a desire to change the direction of the design. This stitch is used in working on canvas or on very thin and transparent materials. When working canvas, not more than two threads each way are used, one-half of which cross diagonally from left to right, and the other half in the opposite direction.

*The Kensington Pattern.*—The illustration which . . . give,



*Kensington Patterns.*

very clearly shows the manner of working this pattern. If proper colors are used in producing the shading, the result will be very gratifying. It is simply a back stitch, filled in without any special regularity, except for the purpose of producing the desired shading. For further directions see illustration.

*Star Stitch.*—This stitch is made of a combination of the signs of multiplication and addition in mathematics, after the same model as the cross stitch.

### Ribbon Work.

The formation of flowers and buds in silk or ribbon produces a very natural and pretty effect, and this is greatly increased if the materials are of a soft texture.

Open roses are made by cutting the silk into small squares, doubling each of them on a *bias*, thus forming triangles, and then bringing the three corners together by gathering. This makes a *petal*, of which a number are then made. A circular piece of buckram is then cut, upon which the petals are sewed. This is begun at the circumference, and the centre is filled in with smaller petals. To make a bud, a large petal is used. It is gathered through the centre, and the gathering covered by chenille. The *seed cup* and *calyx* are made with chenille also. In making *stamens*, chenille is used, care being taken that the color used is appropriate to the flower.

To make a leaf, a pattern of the desired shape is made, and chenille embroidered on it, a different color being used for the mid-ribs.

Designs in ribbon work are embroidered on plush or velvet, and are used to drape either a stand, table or a mantle piece, and sometimes to cover sofa pillows. A banner made of velvet, satin or plush, and a spray of flowers embroidered in ribbon on it, looks very handsome.



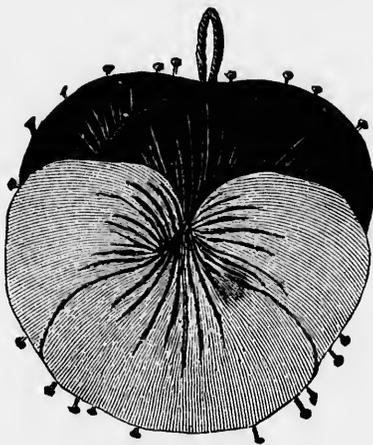
*Ribbon Work.*

### Applique Work.

This work is easily made, and the advantage about it is that it uses up little pieces of flannel, plush, silk and felt that might otherwise be wasted. There are two kinds of applique work, *on-laid* and *in-laid*. In making on-laid work the pattern is cut out from several stuffs, after which they are fastened upon another material with paste, and then the edges are sewed down with silk. In-laid work is done by cutting the same pattern from two materials, and fitting one into the other, in about the same way that in-laid scroll-saw work is done. The inlaid part is then fastened with embroidery silk.

This work is very easily and rapidly done, and presents a very pretty effect, especially if new and tasty designs are used. It may be necessary to explain that the pattern, when prepared, is basted on the foundation to which it is intended to be attached, and all the edges are fastened down in couching or button-hole stitch, with embroidery silks or filling flosses of suitable shades. If there are any lines inside the figures, such as the veins of leaves, they are worked in *stem* stitch; and outside the figures, stems, small leaves, &c., are worked in herring-bone or embroidery stitches. The paper of the pattern is then moistened and torn away, leaving the design on the foundation.

Our illustration of the Pansy Pin Cushion, and its sections (*a* and *b*), show how easily simple but useful articles can be made. Two shades of yellow, purple and lavender, purple and yellow, black and yellow, deep pur-



*Pansy Pin Cushion.*

ple and white, or brown and yellow, are the most desirable colors to select for this style of cushion. The material may be flannel, plush, velvet or cloth, as desired. The foundation of the cushion is cut the size and shape of the illustration, and then two parts, one like diagram *a*, and another like diagram *b*, are cut for the pansy. The section like diagram *b* is lapped at its double curved edges upon the part like diagram *a*, as far as the lower curved dotted line in the latter, and both are sewed together by an invisible stitch, and then to the foundation, the cushion being first closely stuffed with sawdust, bran, or any other desirable material. The other dotted lines are outlined upon the flower with silk floss, and then a little shading artistically done is worked from the centre of the cushion. The cushion is suspended to the wall or to the side of a work basket by a loop of twisted floss or silk cord. The pins are stuck in about the edge.

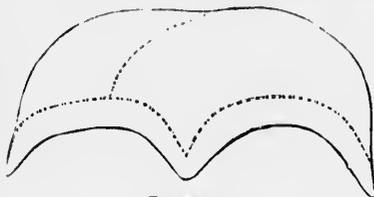


DIAGRAM A.

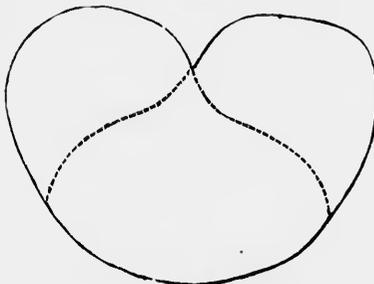


DIAGRAM B.

*Diagram of Pansy Pin Cushion.*

*Applique Lambrequin.*—This pretty illustration shows a design for a window or mantel piece, which is especially elegant if made of plush, although it looks handsome worked in felt, silk, or flannel. Any of these materials may be used as a foundation, but the pansies are cut out from velvet. Any of the shades mentioned in making the Pansy Pin Cushion may be used, care being taken to use shades that blend and harmonize

best. Only two shades are used for each flower. The leaves and buds, of course, are made of green, and the stems of shaded green, the latter being worked in vine *chain* stitch. When completed, the work is pressed on the wrong side, and lined with some heavy suitable material. If this design is worked carefully a rich effect will be produced.



*Applique Tambrequin.*

*Drawn Work* is very popular, and consists in drawing out the threads of linen and working in patterns with fancy stitches.

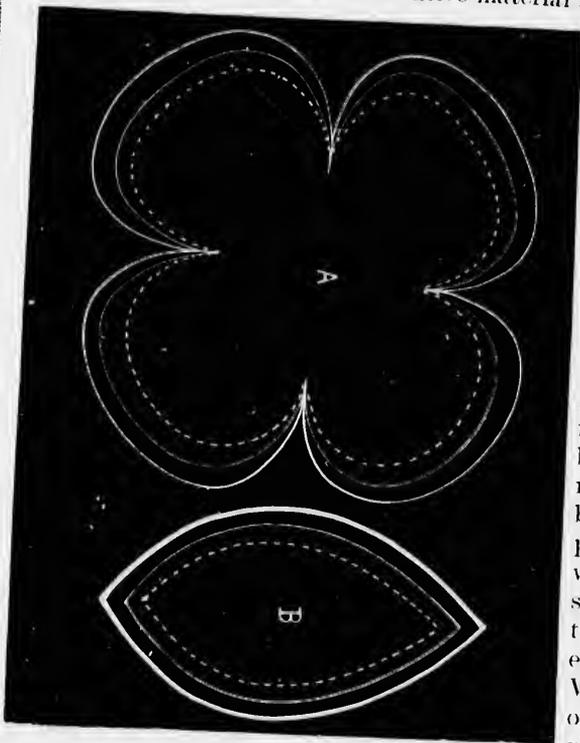
*Card Basket in Panama Canvas.*—This is easily made, and presents a pretty appearance. It is a combination of Panama canvas and straw work, finished with wheat heads. The straws are placed in three bars close together at the top, where they are fastened by a ribbon, but widening at the bottom, like the three-legged frame for a camp-kettle. A cluster of wheat heads are placed at the top, and about an inch from the bottom of the straws, a piece of stiff card, cut in a triangular shape, is sewed to the straw sticks. A square of Panama canvas, fringed upon each edge and embroidered in the centre and corners in a small Berlin pattern, is laid over the triangular piece of card, to which it is secured by small stitches here and there, although it should not have the appearance of lying closely to it.

*Mirror Frame in Plush Embroidery.*—The beveled glass mirror, as shown in the illustration on opposite page, is an elegant addition to any home.

The foundation for a mirror frame can be procured at any of the stores that supply artists' materials, or may be made of pine or whitewood, and then the decorative material may be smoothly fastened to it.

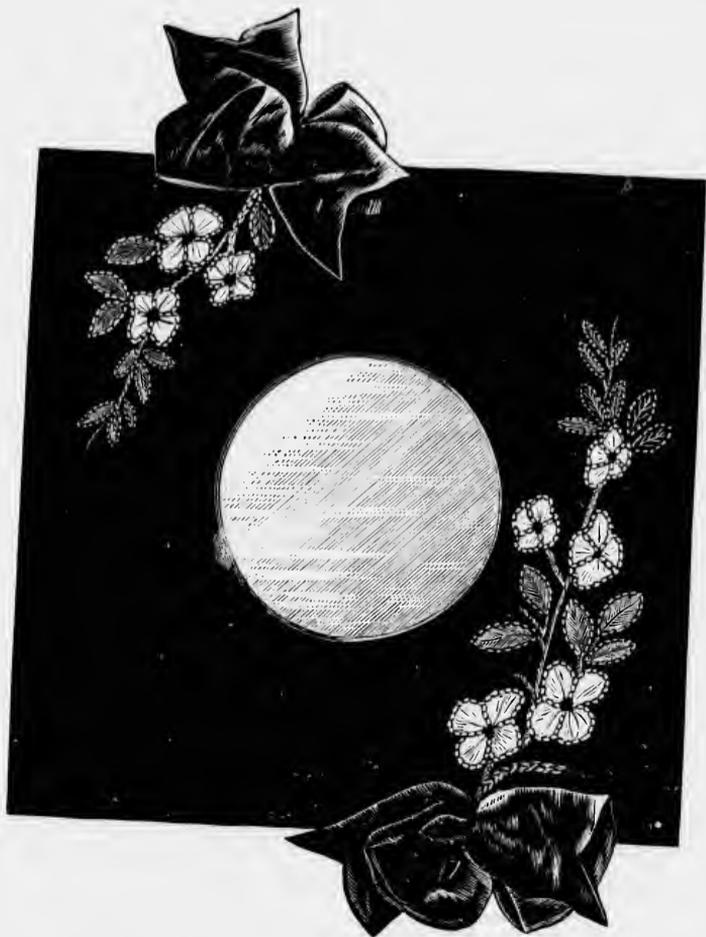
The one illustrated is covered with dark blue plush, upon which are dogwood blossoms and leaves in white and olive plush, applied with yellow floss.

The mirror is hung in diamond fashion, bows of satin ribbon of the blue tone being placed just where they seem to hold the pretty flowers in position. While any colored velvet or plush is in taste, still it



*Diagram of Dogwood Flowers and Leaves. (For Mirror Frame.)*

will be quickly understood by those who have studied decorative effect why a dark tone is preferred—one does not weary of it, as would be the case with a faint tint. White plush is cut in the outlines indicated by diagram A for the dogwood flowers, the



*Mirror Frame in Plush Embroidery. (Dogwood Flowers.)*

heavy, light and dotted lines showing the three sizes employed. Olive plush is used for the leaves, which are shaped by diagram B, in which also the outer line follows the largest size, the next the medium one, and the dotted line the smallest, so that each size may be exactly obtained. Care must be taken in cutting them, and a very sharp pair of scissors will be found necessary.

It would be well to make paper patterns corresponding to the different sizes of the diagram, and cut the blossoms and leaves by these. (See chapter on "How to do your own stamping and make your own patterns.") The method of applying them to the plush frame is as follows :

Several strands of yellow silk, which are increased or lessened according to the thickness deemed desirable, are arranged about the margins of the flowers and leaves, and held down by the button-hole or conching stitch. Great care should be taken that these stitches be made at regular intervals and to extend across without the least slant.

The centres of the flowers are made with a number of French knots of chenille or arrasene in seal brown, with traces of dark yellow knots mixed with them. For directions to paint this design on mirror frame see chapter on "Oil Painting." The blackberry design given in the same chapter is also well adapted for this style of mirror frame.

*Japan Cockscomb.*—The illustration we give of this beautiful flower represents it in its natural size. This is one of the most effective flowers used in embroidery, and is very easily worked. The entire flower and stem is made with the plush stitch (see page 147 for directions how to make plush stitch), by using three or four shades of garnet filloselle. Begin by filling in all such parts as are marked A, B and C with large French knots of a light shade of Berlin wool. Make the knots quite large and close; then fill in the remainder of the comb with darker knots, making them smaller as you get near the edge. This done, commence filling in the filloselle in the darkest shade, and when you come to any of the parts, such as those marked A, B and C, fill them in with the lighter shades.

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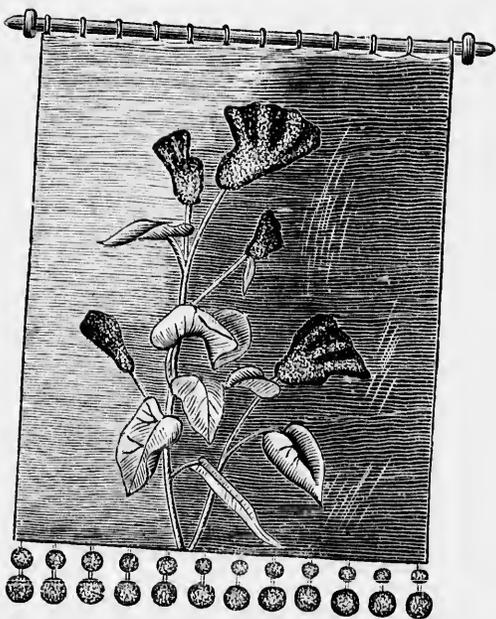


JAPAN COCKSCOMB. (Full Size Working Pattern.)

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The filling in should be worked close, and left quite long. The lower part, from C down to the point where the leaf crosses the stem, shows the green seeds, with a thin sprinkling of velvety down. This is imitated by making the knots of grayish-green crewel, filling it in with a strand of filloselle, made by mixing in a few threads of the light garnet with the grayish-green filloselle, having less garnet as you get near the leaf. The remainder of the stem is filled in with pure gray-green filloselle, clipped quite closely. The leaf is worked in four shades of olive arrasene, twisted. Begin by making the large vein with the darkest shade with the stem stitch, using a large needle; next, put in the other veins with the darkest next shade. Now take your lightest shade and work the upper part of the leaf in a sort of outline stitch, beginning at the point where the leaf touches the stem of the cockscomb.

Work the lower side of leaf in the same way, and about the same distance from the point, slanting the stitches in the direction indicated by the veins. Outline the remainder of the leaf with the next lightest shade. Now fill in the remainder of the leaf with a shade a trifle lighter than that used for the veins, blending as well as you can. The accompanying illustration shows



Cockscomb Banner. (Finished.)

another specie of Cockscomb, worked in the same way, and made up into a wall banner. This flower is very effective on felt or plush, and can be used for a great variety of decorative articles.



*Golden Rod.*

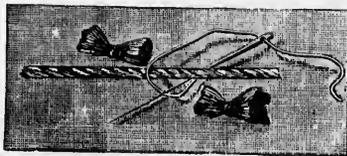
*Golden Rod.*—This is the most popular and effective of all the flowers represented in art needle-work.

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This engraving illustrates the design completed. The leaves are filled in with the South-Kensington stitch, or they may be worked to good advantage with the Janina stitch. The stems are worked in the stem stitch. (The stem stitch and the proper direction of the needle is illustrated on page 150.) The design should be accurately traced or stamped upon the plush, felt, velvet, or satin, in order to produce a good result. Make the large stem first, then the smaller ones, working them the full length of the branches, as shown in the engraving. Now fill in the branches with French knots, using yellow Berlin wool. The knots and filling-in stitches must be done with neatness, but regularity in arrangement need not be aimed at, as they may be taken up whenever there is a necessity. The colors required for filling in are, three or four shades of yellow filloselle in its pure golden hues.

*Filling-in Stitch.*—The stitch used in filling in or making the fluffy portion of the flower is here shown. A needle is threaded with common white thread. Lay a strand of filloselle on the ground of your pattern; bring the needle up between the knots; take the needle down



*Filling-in Stitch.*

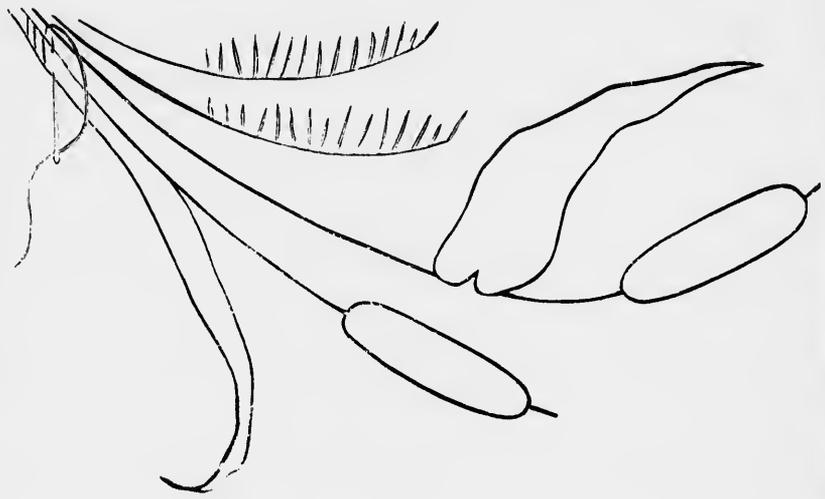
about in the same place it came up, but from the other side of the strand of filloselle, pulling the thread in the needle tightly. Then cut off the filloselle at the longer end. Lay the filloselle on the ground again and fasten it and cut it in the same manner. The fastening of the filloselle should always be made between the knots, the latter offering a support for the fluffy ends of the floss and giving a thick, heavy look to the embroidery. The heavy line in the engraving represents the filloselle before it is fastened and cut. The short, thick portion in the picture shows the result when the filloselle is fastened down and cut. The correct direction of the needle, when fastening the floss, is also clearly pictured. The ends of the floss should be clipped off

evenly, and this should be done after the filling in is completed. Only flowers similar in their nature to those described can be worked in this manner.

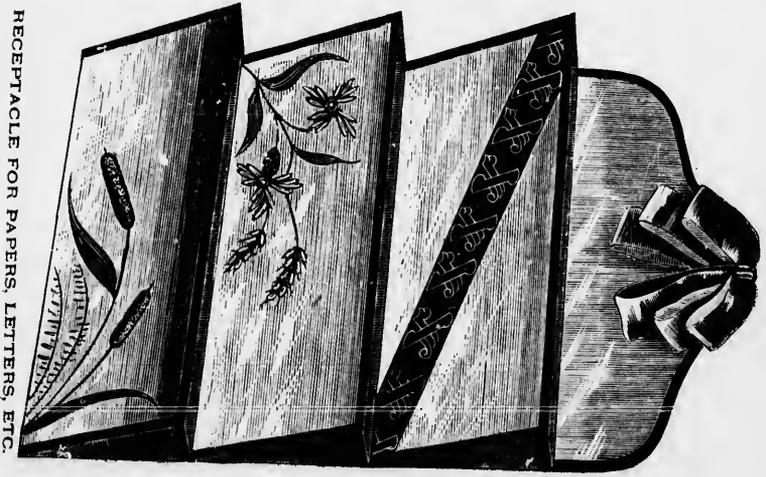
*Receptacle for Papers, Letters, Etc.*—A cheap and pretty receptacle is probably among the foremost necessities of the home, as every lady appreciates "having a place for everything, and everything in its place." The one illustrated is made of heavy silk, very handsomely decorated with a spray of rushes on the lower pocket and a spray of wheat and flowers on the second. Almost any design that fancy might suggest would be suitable. The Golden Rod design, already described, would look very pretty arranged on either of the upper pockets. The accompanying illustration represents the full size pattern used in decorating the lower pocket. The tops of the rushes are worked in the plush stitch, using brown Berlin wool for the knots and two shades of brown filloselle for the filling in. The leaves are worked in bright olive green etching silk, with the satin stitch. The method of working, and the correct slant of the needle is clearly shown in the pattern. In working grasses never make the stitches straight across. The stalks are made with the stem stitch, using the same material and shade as for the leaves. The points that project from the top of the rushes are a trifle lighter than that used for the lower part. The wheat-heads of the second pocket are worked in the wound stitch (see p. 150), using light yellow floss. The design on the upper pocket is worked on ribbon that is arranged diagonally across the pocket. The back is cut from cardboard of the length and width desired, and the three pockets are oblongs of cardboard attached at the lower edges to the back and at the ends to narrow gore-shaped pieces which also join the sides of the back. All the parts are smoothly covered with the silk before attachment. A row of velvet ribbon borders the upper edges of the back and covers the joining of the gores to the pockets. A large bow of pretty ribbon is fastened over the top of the back, and a loop for suspending the receptacle is fastened to the back behind the bow.

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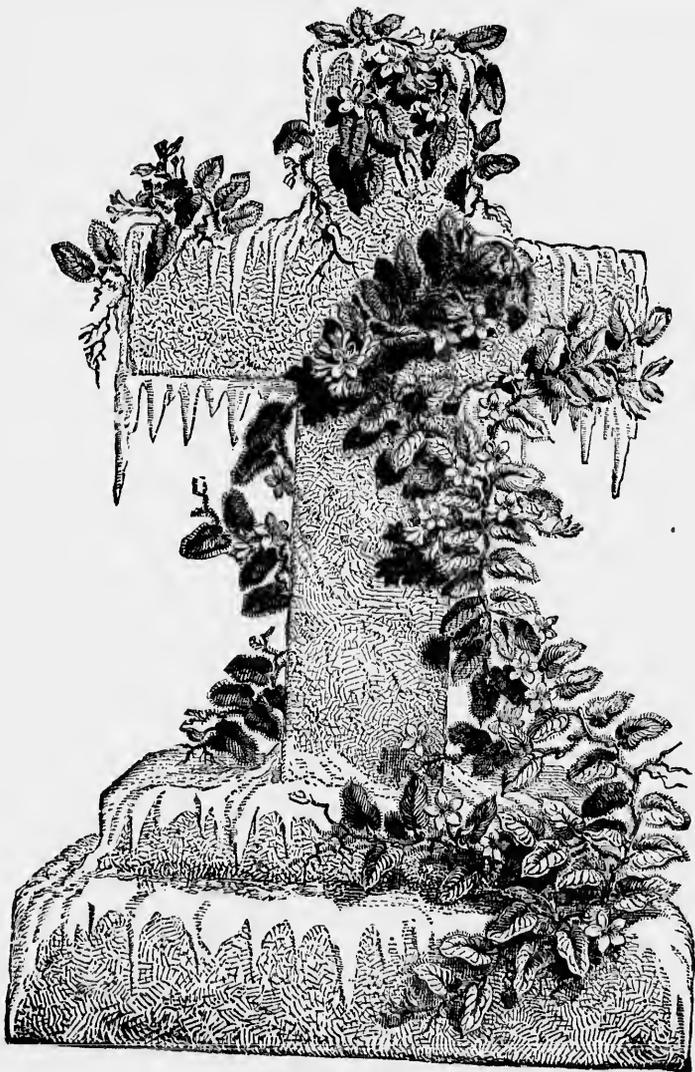


FULL PATTERN FOR RUSHES.



RECEPTACLE FOR PAPERS, LETTERS, ETC.





NATURAL EASTER CROSS.

*Incidental Needlework*

is partly worked with the needle and partly with the brush. The flowers and buds are generally painted, and the vines, stems and leaves are worked in Kensington stitch. The center of the leaf is always worked with crewels in the darkest shade of the colors used, and looks exceedingly pretty if the lighter shades in the edges of the leaf are thrown in with corresponding shades of filoselle. Another method of making this work has lately come out, which gives it a far richer look than the old method of painting. The flowers and buds are put in with different widths of ribbon, and corresponding in shade to the flowers designed. The ribbon is shirred and creased to form the petals, and are held in place with gold thread.

*The Natural Easter Cross*

is in imitation of rough granite, supposed to be placed in the open ground, which, at the Easter season, is adorned with those lovely spring blossoms that would naturally be found blooming around and upon it in the early spring, while the ice and snow still cover the earth during some of those cold days which visit us after the early flowers have commenced to bloom. The cross should, if possible, be quite large, from eighteen to twenty-one inches high. Fasten it to a solid block of wood; then arrange stones around it in imitation of a natural wayside cross. The wood is then painted with three coats of granite-colored paint, varnished and heavily sanded, and cut in imitation of irregular stones. The stones around the base are dipped in melted wax of the same color as the cross. The next step is to form the ice and snow: Take a quantity of pure wax, and melt it to the consistency of thick cream; then, with a small ladle, take up some of the wax,

and proceed to imitate the ice, which has frozen upon the cross, and dripped down in long pendant icicles. This is done by pouring the wax over the arms and allowing it to drip slowly, one coat upon another, until the proper length and thickness are given to each icicle. (*See illustration.*) The wax must not become too cool, or it will form into lumps, though in some places the rippled appearance natural to ice looks well. A portion is also poured upon the top, and a little upon the stones. When cold, the wax portion is varnished with a very thin coat of Demar, and, before this is dry, is thickly sprinkled with diamond powder. The flowers suitable for this cross are two clumps of Violets, a few Snowdrops, and the ever lovely trailing *Arbutus* with its gorgeous leaves and delicate pink blossoms, forms the chief adornment, and is arranged to cluster thickly around the base, peeping out from the snow and ice about the stones, and fastened up around the body with long sprays, falling over the arms in long, graceful garlands. All these flowers should be made from wax.

#### Tables and Table Covers.

One of the chief features of a tastefully arranged room is a table covered with some prettily designed cloth. Almost every housewife has one or more of those old-fashioned stands or small tables stored away in some out of the way place, waiting a convenient time to make kindling of them, or, perhaps, with a more laudable purpose of presenting them to some *cousin*; but in these days of advancement, the garret occupants are dragged out, divested of dust and cobwebs, and utilized as pretty and useful household furnishings. These may be first ebonized, then gilded in lines or Arabesque, whichever fancy may suggest. *Fig. 2*, which is now the "height of fashion," shows one of the old-fashioned stands renovated, and could not be purchased for less than \$14 as it stands.

The cover is a maroon plush, appliqued with figures of black velvet, fastened with chain stitch in old gold colored silk, and ornamented with Kensington stitches in shaded silk. It is cut bracket form at the ends, and trimmed with fringe of a corresponding shade. Scarves are more in vogue now than the square cloths. A very pretty scarf may be made with a blue center of felt cloth, the ends being of old gold colored serge. One end may be embroidered with a drooping spray of Wild Roses, and the other may be worked with a cluster of deep violet Pansies; the ends are finished with tassels and rings.

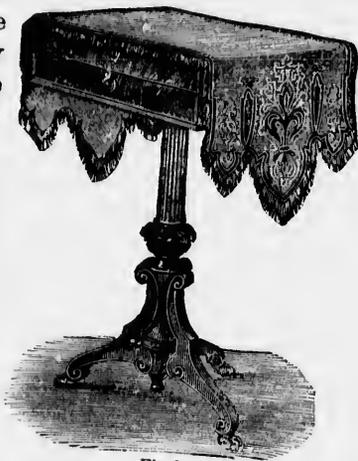


Fig. 2.

Another way in which one of these old stands may be used: First ornament the legs with gilding, after having ebonized them. Then have made for the top a box exactly fitting it, with lid to raise, and furnish with lock; stain and embellish the sides and front very tastefully. Make a shelf of a narrow strip of board laid on the bar between the feet. This will be very convenient for holding a basket or other article used about sewing. Embroider a cover for the top and the shelf, fastening the cover on the top with gimp tacks. Then trim both with fringe, and you have a tasteful work-stand which cost very little.

*Fig. 3* shows a pretty sewing-chair and table, both presenting such a tasteful and inviting aspect that any lady might desire to take a pattern by them, for no prettier arrangement can be made for the sitting-room or any room which is much occupied. Both chair and table, as far as the framework is con-

cerned, are so exceedingly simple in form that they may be made with but little trouble or expense by any person with a little mechanical skill. To make the chair more comfortable, it might better have a thick, padded cushion placed beneath the worked strip.

The table-cover and strip for the chair are made of gray pressed flannel, with a lining of soft, colored stuff of any kind convenient; which, tacked evenly together, is stitched in dia-



Fig. 3.

monds on the sewing-machine. Both the center of the table-cover and chair-pad are embroidered with bouquets of bright-colored crewels. As a border, strips of scarlet and dark gray flannels are pinked out on each edge and fastened with feather stitch, or any stitch that fancy may suggest. Other handsome covers may be made of gray and ecru-colored damask linens, embroidered in Kensington stitch on the figures, or in Rococo patterns, done with scarlet or other fixed colors in embroidery silk, and these possess the valuable recommendation of being susceptible of cleansing—no light matter when they are in apartments constantly in use. This class of table and chair-cover we

would particularly recommend to our readers, having found their value for week after week; to enjoy the luxury of fresh, glossy, carefully washed covers is no small matter, especially during the hot weather, when everything that adds to the cool and refreshing aspect of the apartment becomes of momentous importance. And what imparts such a sense of heat and general aridness as covers of heavy, bright woolen stuffs, which one fairly dislikes to handle? These may appear trifles to the busy housewife, but it is by just such little matters that the home is made delightful or uncomfortable.

#### Ottoman.

*Fig. 4* represents a quaint Ottoman, which has a richly carved frame, but is shown here more on account of the cover than to explain the framework, and for the reason that it exhibits a method of covering a worn seat by means of applique work of Arabesque pattern. Take a piece of light gray felt cloth of the required size, and over this set a piece of black silk velvet, a design with center-piece, border and corners marked out on it, and worked in button-hole stitching. The intermediate cloth is then cut away, and the outline of the design is finished with gold braid. The effect of this combination is exceedingly beautiful, and will be found a durable cover for chairs, cushions, and upholstery in general. Another cover is made in maroon velvet, with a cluster of Morning Glories embroidered in the center, and a broken spray of the Trailing Arbutus worked in each corner. Plainer covers for more com-



*Fig. 4.*

mon use may be worked on canvas with common cross-stitch. A pretty design for such work is a child scattering seeds from her apron to a brood of chickens, or a boy teaching his dog the "military drill." A few such ottomans will be found of inestimable service in the various apartments, especially if there are children to be accommodated, for these tasteful little seats are always highly appreciated by the "little folks," besides adding a graceful appearance to an apartment.

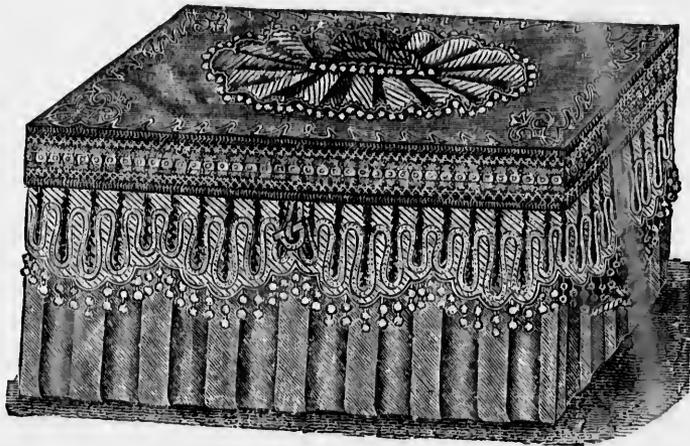


Fig. 5.

Another pretty ottoman may be made from a square pine-wood box, fourteen inches high and two feet four inches square. The sides are covered with any plain material, and castors fastened under the corners. A wide fringe covers the sides, and should be thick and heavy, though a deep puff, slightly full, may be substituted if more convenient. A cushion, thickly tufted, covers the top, and is finished on the sides with a wide puff and lengthwise plaited strips, with tassels at each corner.

A pretty combination of colors for such an ottoman is to make the top and plaited sides of the cushion of maroon, and the puff below black, with mixed black and maroon fringe and tassels. An embroidered cover may also ornament the top, which adds much to its appearance.

#### Trimmed Clothes-Basket.

The materials used are an old traveling-basket or box, with coverings of gray sail-cloth, gray cambric, furniture cord,

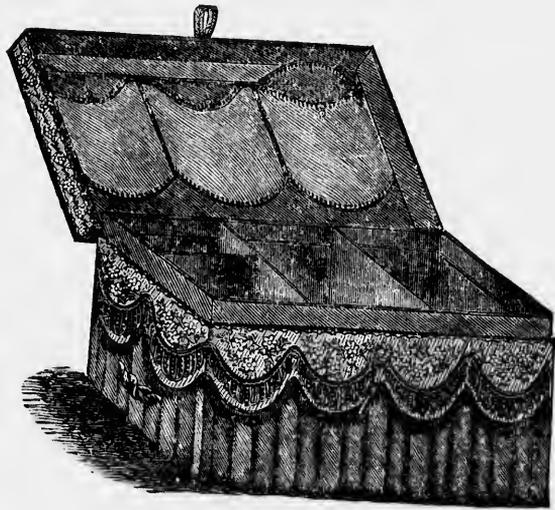


Fig. 6.

woolen braid, etc. *Fig. 5* shows the outside of one of these baskets. This is an exceedingly handy thing in a bedroom or nursery; is a pretty piece of furniture, and an excellent way of putting to use an old trunk that cannot be put to use for traveling any more. The side-walls are covered with gray cambric, laid into even box plaits, while a covering of strong linen

secures the bottom; a lambrequin of sail-cloth surrounds the upper margin. The border on the lambrequin also decorates the rim all around the cover. The latter is covered smoothly with sail-cloth, edged with a border of Arabesques and decorated with an oval rosette of cambric, having in the center a handle braided of crochet cord. The points of the lambrequin are each cut into five scallops and finished off with red and white ball fringe. The rim of the cover is to be decorated with a border as wide as itself. The rosette on the cover is of gray cambric, scalloped all around, button-hole stitched and decorated with single balls. *Fig. 6* shows the interior of the basket, divided into compartments by walls of cardboard covered with cambric. Three pockets, with laps, are affixed to the cover, and all the edges are bound with red braid, and further elaborated by narrow embroidery or white lace. These useful appendages may be covered and trimmed according to individual taste, and in keeping with the other appointments of the room.

#### Wall-Pockets.

As a general custom wall-pockets are placed in the sitting-room, library, hall or chamber more frequently than against the walls of the parlor, but there are many articles even in the parlor which might better be kept in a handsome wall-pocket than littering tables, pianos, and even the sofas and chairs. Not that a little graceful confusion is unpleasant to the artistic taste, but that this license may be carried to that point which amounts to disorder, and is a sure sign of careless housekeeping; therefore, though a few of the late papers and magazines, an interesting book, a basket of delicate work, or even a game or two may occupy appropriate positions on tables and stands, let the majority of such articles find an appropriate resting place in the beautiful wall-pocket or hanging-basket.

These articles, when used for the parlor, should be of the most elegant kinds, and may be enriched either with embroidery, hand painting or other fancy work, as should be also those used for the chamber.

*Fig. 7* represents a wall-pocket for brushes and combs carved from black walnut with bracket saws and carving tools. Make the *back* of a piece of wood one-fourth of an inch thick, fourteen inches high, and the *front* six inches wide at the top, four at the bottom and six and three-quarters high, with triangular side pieces four inches wide and six and three-quarters long, forming a box or pocket. The front is ornamented with embroidery, worked on fawn-colored carriage leather or enameled oil-cloth; but some persons prefer silk or satin. To work this embroidery, cut the foundation of the material in shape of the front of the pocket, and the foundation figures of rings and square of oiled lines or light-colored enameled oil-cloth, and arrange them in place, cutting through the square, passing it through the rings, and covering the slit with the rings. The square is fastened on the foundation with Point Russe and knotted stitches of brown silk, and edged with button-hole stitches of the same. The rings are ornamented with herring-bone stitches of old gold silk. The remainder of the embroidery is done in Point Russe, and French knots in



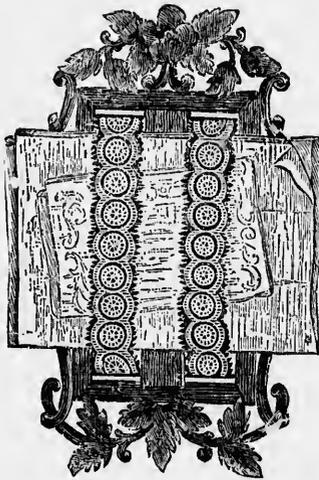
*Fig. 7.*

maize-colored silk. After finishing the needle-work, interlay it with cardboard, and line both back and sides with enameled oil-cloth, place it against the fret-work of the front, and fasten securely. Monograms, clusters of Pansies, or a small wreath of Rosebuds may be worked in as designs.

This will be found an elegant pocket, and easily made.

#### Paper-Holders

*Fig. 8* is a newspaper-holder, with embroidered strips. This holder may be placed on the table or hung on the wall, and is made of carved wood. The inner surface, which is divided into three bars, measures eleven inches in height and six inches in width; together with the outer open-work decorations its height is fifteen inches and its width ten inches.



*Fig. 8.*

The requisite slits through which the embroidered straps that hold the newspapers are passed are provided at the top and bottom of the frame. These straps are usually of silk or satin ribbon, and should be worked with bright colors. A chain of Daisies or a running vine of the Trailing Arbutus is a very appropriate designs.

*Fig. 9* represents a paper-receiver, and will be found a useful fancy article for letters, pamphlets, etc. The standard is formed with two pieces of rattan, eighteen inches long, and two horizontal pieces fourteen inches long. A round piece of wood, sawed in two, hollowed out in the center, will furnish the stand with feet. Fasten together with tacks and glue, and varnish

black when the standard is firm. Cut a piece of pasteboard—the cover of an old box will answer this purpose—twelve and a half inches wide and thirteen inches long. Cover both sides with any desired shade of silk by sewing the silk edges together. This forms the center of the paper-case, which has two pockets. The fronts of the pockets are made of silver perforated board, and are eight inches long and twelve inches wide, and the pattern is worked in corresponding shades of silk and wool. The heavy black lines are narrow black velvet, worked with silk in cross-stitch. The half-diamond shape is filled in silk cross-stitch, or may be filled in satin stitch. The center pattern may be worked in darker shades of silk or wool. Cut two pieces of silk eight inches long and six wide; make a narrow hem for the ends of the pockets; sew this to the silver board, which should be lined with the same shade of silk. Sew firmly eight inches from the bottom of the center pasteboard to the middle of the silk end; make one plait each side of the



Fig. 9.

center-board, then sew the silk covering of the pasteboard, the silk which forms the end, and the silver board together at the bottom. Finish with box-plaiting of narrow ribbon all around.

#### Wall Protectors.

*Fig. 10* is a wall protector, with pockets, to hang over a wash-stand. This article is very serviceable in either a chamber or



*Fig. 10.*

bath-room. It is made of light brown oil-cloth, and provided with pockets for combs, light brushes, etc. It may be finished off all around by a ruching or braid of scarlet worsted. On the pattern of the cover the place for the pockets and the arrangement of the pocket parts for the combs are indicated. For the latter, three parts, graduating in size, are requisite; these are each bound at the top with braid, and then all three together sewed to the protector, but in such a manner that they do not

lie flat, but a little hollow. The top part of the brush-pocket is also bound with black braid, a deep plait laid at the bottom, and the pocket then sewed to the protector, according to the space designated for it in the pattern, and trimmed to correspond with the edge of the protector. Three brass rings affixed to the top serve to hang it up. The rack in the center holds a



Fig. 11.

basket, in which soap and the like may be placed. Sponge, towel, etc., may also be hung on the rack.

*Fig. 11* is intended to hang over the wash-stand. This may be made plain or very elaborate. The protector in the illustration is made of oil-cloth, twenty-three inches wide and thirty inches long, cut into curves and lined with gray percales. It is bound around the edge with braid and decorated with black china buttons. The binding is edged by two rows of cord of different shades, and confined by over-hand stitches of thick

black silk. The Arabesques are made in a similar manner, of cord, and are connected by gray linen folds, fastened to the oil-cloth by means of black buttons. The surface of the protector is decorated by two pockets for the reception of brushes, and a little tin shelf, surrounded by a lambrequin of oil-cloth, to which a hook is attached to hang sponge or wash-glove. Another more fancy article may be made from dotted muslin and trimmed with lace and bows of ribbon.

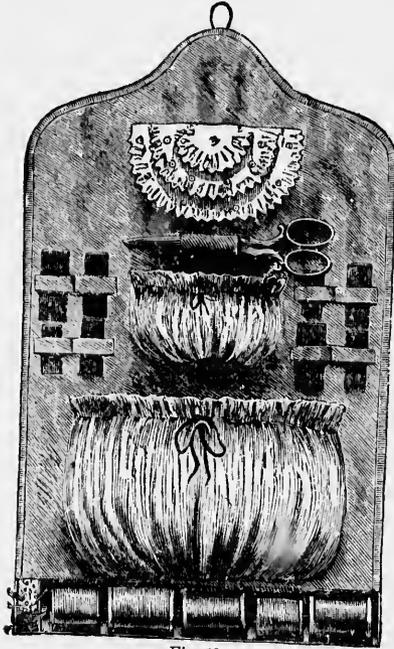


Fig. 12.

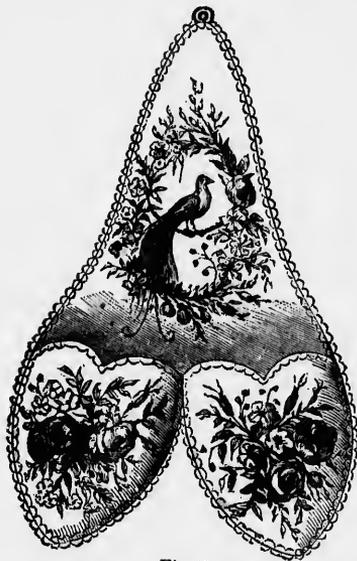
Fig. 12 shows a wall-pocket, appropriate for the sewing or sitting-room, but better known by the appellation of *housewife*. It is very easily made, and no housekeeper should be without one, for it may be made of so small a size that it can be carried in the pocket without the slightest incon-

venience. Our illustration shows one, six inches wide and ten long; the outside of maroon morocco and the linings and pockets of maroon colored silk. It may be bound with braid, quilled ribbon, or anything that fancy may suggest. The spools are held by a piece of strong wire, which is fastened at one end into a round pin-cushion, and at the other fits into a piece of pasteboard, covered with silk. A piece of tin, bent in the shape of a half-tube, is placed between the outside and

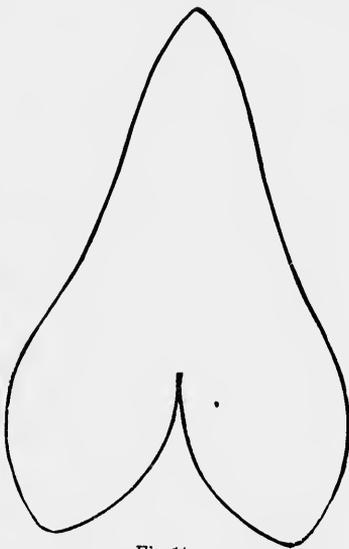
lining, and fastened there; a round pin-cushion closes one end and the pasteboard the other. The pin-cushion is fastened in by only half a dozen stitches, so that the wires on which the spools are strung may be movable.

#### Slipper Case.

*Fig. 13* is an illustration of a slipper case, which may be made with very little expense. It is a useful appliance for



*Fig. 13.*



*Fig. 14.*

the keeping of shoes and slippers, which are apt to become displaced in the bottom of some closet, and, when required, must be searched for. No lady or gentleman should be without this convenient appendage to their bedroom.

Cut from very heavy pasteboard a back, shaped like the toes of two slippers placed together and merged into one above, end.

ing in a gracefully curved point at the top, similar to *Fig. 14*, which shows the back. The pasteboard pieces being thus cut out, may be covered and finished in various ways, either with black satin embroidered on the toes and upon the top of the back, lined with muslin and trimmed with cord and tassels; or, having covered the front of back and toes with bronze or ornamental paper, and marbled or any other kind on the back and inside of toes, paste handsome-colored pictures upon the toes and back, and with strong needle and thread sew the toes to the back, commencing at the outside. This curved side being made fast will cause the inner points to curve in against the back exactly into the proper position, doing away with any necessity for stitching, which would be difficult in this place. The stitches may then be covered with a narrow border of gold paper, which also edges the back and fronts of the toes. Another pretty way of covering is with brown paper leaves, cutting the heavy brown hardware paper into triangular pieces, folded in the center into leaves, stiffening with glue, and sewing one over the other like scales, and finally varnishing with copal. Monograms worked in silk and bullion are also set on the toes, and look very effective. Cardinal satin embroidered with clusters of Pansies and Forget-me-not, and trimmed with corresponding shades of ribbon, makes an elegant looking slipper-case.

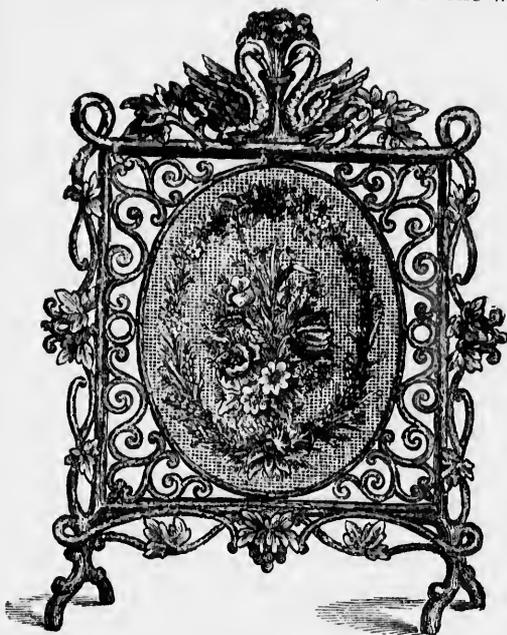
#### Screens.

From being mere unwieldy contrivances to shelter from draught or the heat of the fire, screens have come to be among the prettiest ornaments of a modern home. They are made in every conceivable design, but the three illustrated here are very pretty and are easily made.

*Fig. 15* is a folding screen made in leaf-work. A frame of suitable size is covered with brown linen or serge, which must be stretched tightly, when autumn leaves, pressed and dried,



may be neatly gummed on in the design shown, or may be varied according to taste. This screen may also be made entirely of light wood, and when the leaves are on and the gum has become dry, a coat of copal varnish must be laid with a soft camel's hair brush lightly over the surface, and the work will be complete.



*Fig. 16.*

The lines separating the portions left to be filled with leaves may be drawn in dark brown oil colors, and give greater distinctness and consequent greater beauty to the work.

*Fig. 16* is a very pretty design for a fire screen, the result of the united labors of the cabinet-maker and the lady of the house. Walnut wood is an appropriate material for the frame; and the design of the wool work, of course, may be varied according to the taste and skill of the worker. The group of flowers and enclosing wreath are appropriate for the character of the frame illustrated; but for a design of a geometrical kind, a more formal pattern for the wool-work may be employed, and the suggestions of the designer of the frame will be useful.

An elegant specimen of a window screen is shown in *Fig. 17*,

which is especially useful and appropriate for a dining room window.

The materials required are coarse curtain net, crochet thread No. 40, and black sewing cotton. The flowers are of the richest character, crocheted and fastened on the net in a graceful group,

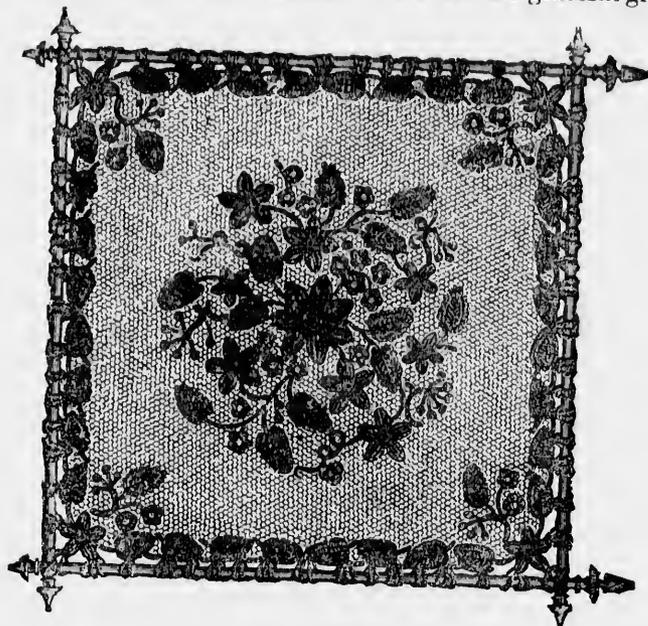
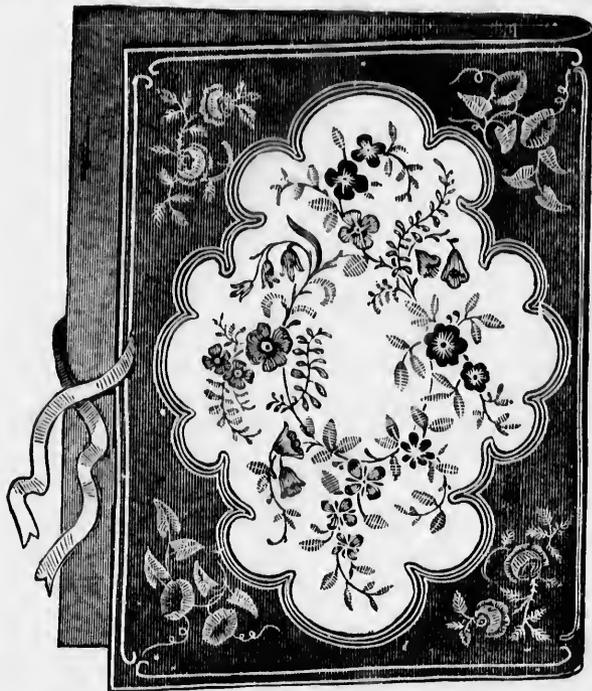


Fig. 17.

as a center piece, and arranged in the corners and singly around the edge as a border. Delicate patterns of muslin embroidery may be applied on the net in bouquets of flowers, Watteau figures, etc. Etchings look exceedingly beautiful done in colors.

Another pretty pattern is made by basting Swiss muslin upon the net, and tracing a pattern of grapes and grape leaves, both for center and corner pieces. Then work the outline with

fine embroidery cotton No. 18 in chain-stitch, the grapes in satin-stitch, and, after all is completed, cut away the muslin from the foundation, leaving only the design. When the work is finished, lace it over a frame of polished rods fitted to the size of



*Fig. 18.*

the window. The net must be cut somewhat smaller than the frame. Such screens are exceedingly elegant, and give a beautiful finish to a window.

*Portfolio.*

*Fig. 18.* A very pretty note-case or portfolio is worked in two pieces, the dark part being of leather and the light of fine

canvas. A dark brown leather with the work upon it in green, the leaves in satin stitch, and the stem and tendrils in chain-stitch, is very pleasing. The center is worked upon very fine canvas, leaving the ground plain, the flowers in very bright silk, the initial in any color to suit the taste, and it may be taken to a book-binder and the margin-line on the leather stamped in gold. The case may be made of any size to suit its purpose. The two sides should be of one piece of leather.

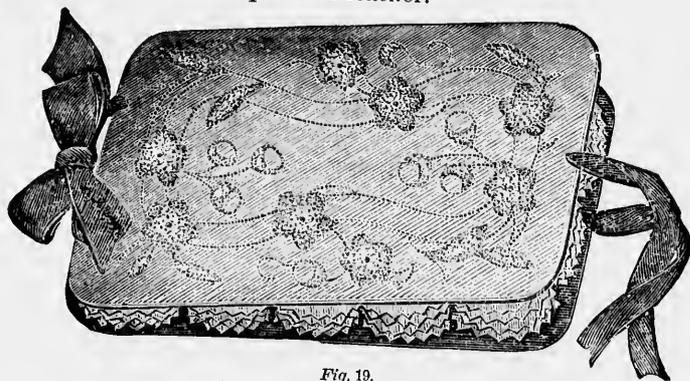


Fig. 19.

## Needle-Book.

*Fig. 19* illustrates a very pretty piece of work done in embossing. The materials required are two pieces of bristol-board, one white and the other pink, each seven and a half inches long and two inches wide, twice the quantity of fine white flannel or opera cloth, and one-half yard of pink silk ribbon an inch in width. To execute this fascinating work, trace the design on the wrong side of the paper, and with a fine sewing-needle pierce flowers, leaves and blossoms; the paper being placed over a soft pin-cushion. Stems and tendrils are indicated by a few perforations; then turn the paper and pierce them on the right side. When both cover-parts of the bristol-board have been completed, cut a

red  
silk

double layer of flannel somewhat smaller than the covers, and scallop all around or button-hole stitch with pink embroidery silk. In order to connect the flannel leaves and the covers, pass a narrow pink ribbon through holes made in the covers and flannel, and tie with a pretty bow, as in the engraving. For closing the book, two ends of the ribbon, each four inches in length, are passed through holes bored for the purpose in the cover parts, and stitched to them.

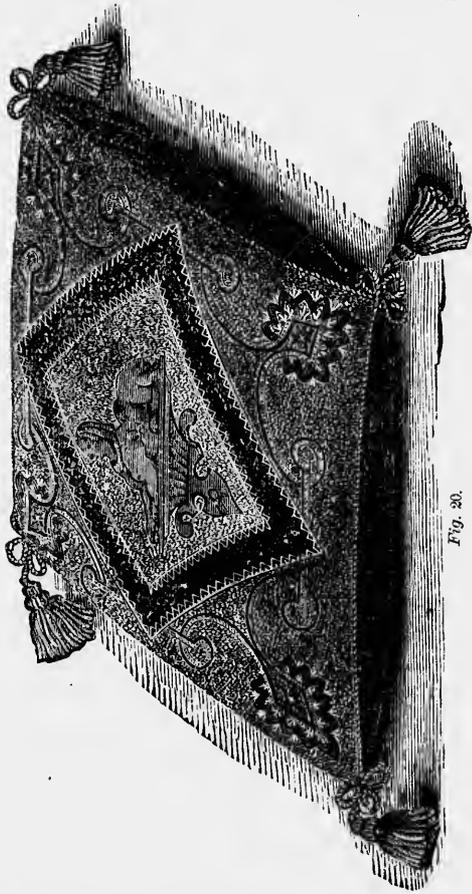


Fig. 20.

#### Sofa Cushions.

The materials for *Fig. 20* are English rubber, brown cloth, dark green velvet ribbon, one and one-half inches wide, green plush for lining, cord and tassels, old gold, black, red, white and blue floss-silk, and dark and light brown twist-silk, etc.

The foundation of the cushion consists of English rubber, a

gray cloth covered with loops, is fifteen inches square, is decorated with bright colored embroidery and applique work, lined with green plush, and finished off with green cord and tassels. The center-piece represents a sphinx cut of brown cloth and embroidered with brown silk, and is surrounded by a frame, ten inches square, of green velvet ribbon, button-hole stitched at the

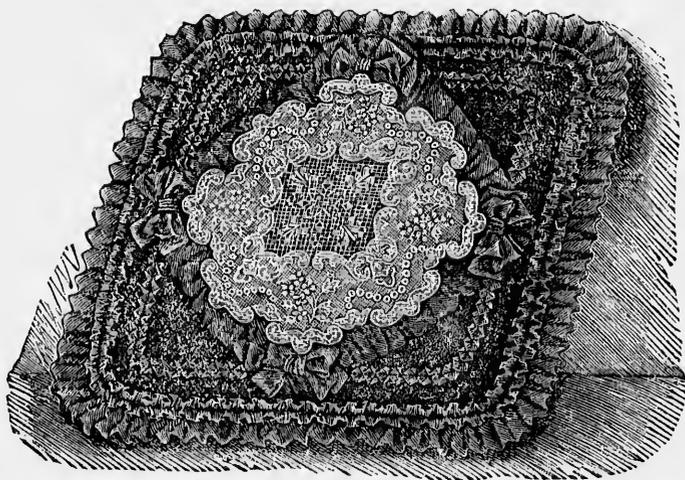


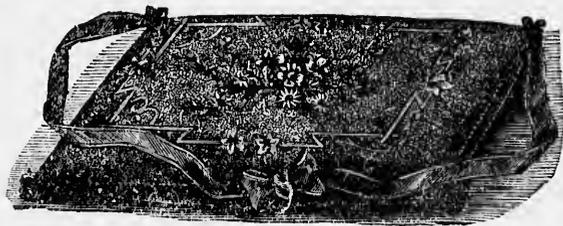
Fig. 21.

edges with brown silk. The corner figures and Arabesques are embroidered with a tasteful blending of all the given shades, which should be very bright, as the curly ground of the rubber has a tendency to subdue them.

*Fig. 21* illustrates a cushion with a lace tidy. It is eighteen inches square, and looks pretty made of two contrasting colors of silk, satin or velvet, or it may be made of two shades of the same color. The center-piece is finished with a square of puffing, with bows of ribbon at the corners, and the cushion is finished with ruchings of different widths of ribbon. A very

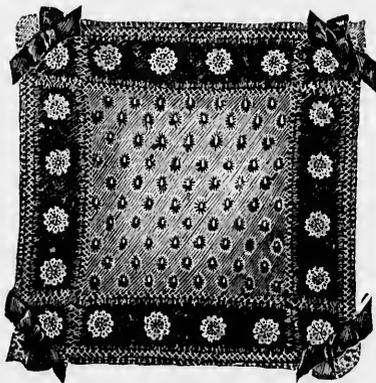
elegant cushion is made from cream-colored satin. The center is decorated with blue and pink clusters of Corn-flowers. The cushion is finished with pink and blue mixed cord and tassels.

*Fig. 22* is a pretty cushion of gray satin, eighteen inches long and fourteen inches wide. The upper cover is embroidered



*Fig. 22.*

with bright-colored silks in feathery sprays of Daisies and Dandelions, with a scarlet Poppy and Convolvulus blossom thrown in among the Arabesque patterns. It is finished with a border of cord, and a suspension ribbon and bow of pearl gray satin.



*Fig. 23.*

The foundation is of ermine or flame dotted flannel, and each figure or dot is edged with button-hole stitching of every conceivable shade of silk. A border of scarlet flannel is pinked

out on each edge and worked with white. Pinked rosettes of white flannel or opera cloth are fastened on the scarlet border with such colors as fancy may suggest. This pattern also makes an elegant cradle-spread, or is very ornamental thrown over the back of a sofa or lounge as an Afghan or rug.

The beautiful sofa cushion, *Fig. 24*, is a most elegant specimen of *applique* embroidery, and is composed of the richest colors and combinations of beautiful materials, being a group of wild flowers with gorgeous butterflies, etc.

The ground is of dark brown velvet; the group shaded in every rich and resplendent color.

The large leaves are all cut from green velvet of various shades, the edges button-holed and the veins made of yellow, scarlet and brown silk, according to taste; and when laid on the cloth these are in some cases raised with a little edge turned over. The Strawberries and some flowers have a little cotton laid beneath them, to give a rounded appearance.



*Fig. 24.*

The grass and stems are made with silk, in satin and chain-stitches. With the blue Corn-flowers, green leaves and sprigs are mixed, some of very light colors and others of brown in various shades. Close to the clusters of Fox-gloves, which is the most projecting flower, a stately bough of Lilac Campanulas is placed; at the side a cluster of unripe nuts of pale green, shaded over into brown, and white Strawberry blossoms peep forth from between the dark green leaves, and have an extremely pretty effect, contrasting, as they do, with the vivid scarlet berries, dotted with pale

yellow. The small golden Dandelions enliven the whole, as they stand out in all their bright, saucy prettiness from the long-pointed leaves, and the red blossoms of the beautiful Heath are scattered over the whole with fine effect, giving a light, airy look to the group. Work all the fine leaves in various shades of green silk, and add the beautiful tints of wood-brown, putting several shades of pink at the points of the small, feathery

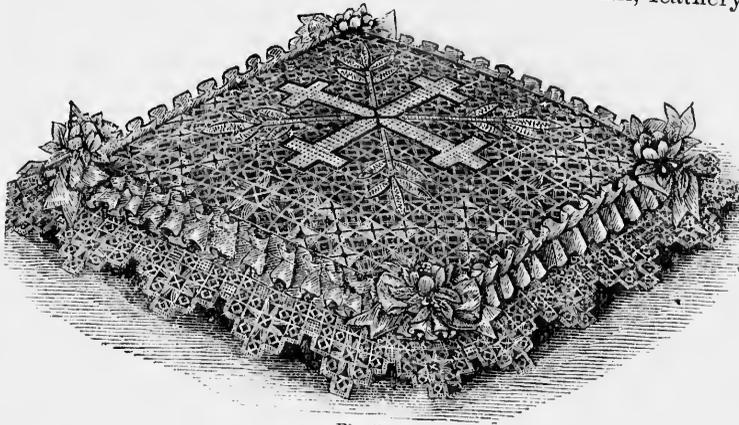


Fig. 25.

sprays. The curving border of contrasting colored velvet is to be applied with herring-bone stitches of old-gold silk.

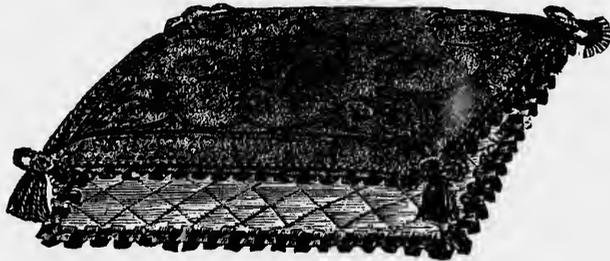
#### Toilet Cushions.

Our model, *Fig. 25*, is made of muslin or any firm-textured goods for foundation, and is seven inches square. It is covered with red satin, and is decorated with a square of Guipure lace. The crosses are of white silk, embroidered in red. The cushion is edged with blonde lace, and headed by a quilling of white satin ribbon. Each corner is decorated by a dainty spray of flowers resting on a bow of ribbon, which looks exceedingly pretty for a toilet cushion.

Another very elegant cushion may be made from pale blue satin, with apple blossoms painted or embroidered in the center and the edges finished with two rows of pearl beads; or, if a cardinal satin, a broken Calla Lily, or several Pond Lily buds look exquisite, either painted or embroidered, for a center-piece. The edges may be finished with white chenille cord. A pink satin looks elegant decorated with Blue Convolvulus blossoms, and the edges finished with blue silk cord and tassels.

#### Handkerchief Case.

*Fig. 26* represents a handkerchief case which is made with two pieces of cardboard twelve inches long and eight inches



*Fig. 26.*

wide. Blue silk, fine white sewing silk, fine gold cord, thick silk cord, fancy buttons with little tassels, white muslin and batting are all the requisites. The parts of the cardboard are covered on the inner sides with blue silk, wadded, and then quilted in diamonds with white silk. The bottom part is smoothly covered with silk; the top is provided with a cushion, embroidered with any simple design. The outside cover is elaborately worked in Arabesques, with gold cord and fancy stitches. The outer edges of both parts are finished with thick silk cord; the inner edge with a pink silk ruching; the corners are finished with fancy cord and tassels, or fancy buttons and tassels.

We give another elegant model in *Fig. 27*, which is made with two pieces of cardboard each fourteen inches square, with blunted corners. It is covered with a diamond quilting of pink satin, and finished on the inside with white silk quilting. The edges are trimmed with heavy silk cord, and the cover



Fig. 27.

decorated with a fan quilting of lace and bows of ribbon. The monogram in the center is made of pearl-headed pins. A small sachet can be made from two pieces of different shaded

silks, decorated with some fancy picture and filled with perfumed batting, and fastened to the inside upper cover. The case may be closed with a button and loop.

#### Pin-Cushion.

*Fig. 28* illustrates an elegant pin-cushion five inches square, and filled with iron filings and bran. The top is covered with quilted cream colored silk, and the sides with blue satin puffing. Four pointed drapes of cream-colored silk, embroidered or painted with vagrant sprays of

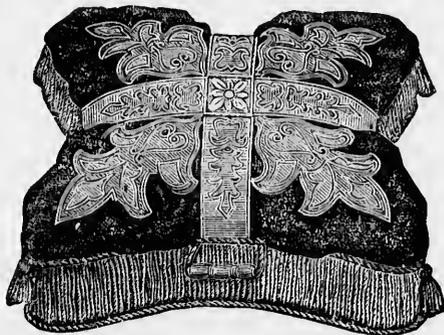


Fig. 28.

Forget-me-nots, meet at the corners, and are fastened with bows of blue satin ribbon and tassels.

#### Footstools.

*Fig. 29* shows a beautiful footstool, made by cutting out a square of floor oil-cloth, rounding the corners and hollowing out the center of each side, as shown in the illustration. Cut also a strip of the same six inches high, and with a strong needle and coarse thread sew this along the bottom, uniting the ends at one of the sides, then stuff it with corn-husks, hair or moss; cover it with coarse muslin, and the case or foundation is ready for the after embellishments. Make a case of crimson velvet, velveteen or any desired material, by cutting a square one-third larger than the oil-cloth bottom; also a piece to fit the sides; sew the ends



*Fig. 29.*

of the latter together, and, dividing it into four equal parts, sew; fit the square, also divided into four parts, to this, and gathering the edges, sew these two firmly together and fit over the stool, sewing the bottom securely around the oil-cloth, and finish with a thick woolen cord. Next take two strips of ecrucolored ribbon, cross them to form four bands, and embroider them in Arabesques with rich colors—the corner pieces of gray satin may be worked in contrasting shades of silk; when finished, baste it closely on the hassock, trimming the edges with gold cord. A wooden handle with the cord passed through, and tassels and fringe around the sides and on the corners, finish

this beautiful stool, which is sufficiently elegant for parlors handsomely furnished.

An exceedingly handsome *brioche* is shown in *Fig. 30*. It has for its foundation a strong case of canvas or carpeting stuffed very tightly, and tied down on the top in the way that mattresses are upholstered. The cover in the model is *cretonne*,



*Fig. 30.*

but any other material may be used. Around the sides is a plaited ruffle edged with gimp and tacked in every under-plait; against the canvas side piece a heavy cord is sewed and around the bottom edge, and a quilling two and a half inches

deep covers the raw edges around the upper part, with full bows of the same at each corner.

#### Work-Baskets.

*Fig. 31* shows a unique and very artistic work-basket in tatting and bead work. The materials are gray silk twist, steel beads (No. 3), colored lining and ribbon, and for the bottom a piece of cardboard seven inches long and six inches wide. The corners are cut square. For the walls of the basket procure four thin frames, each one and three-fifths inches square, four other frames one and three-fifths inches high and five inches long; and for the cover, which consists of two parts, two frames, as shown in the illustration. Two oblong rings of steel springs serve for handles. The bottom of the basket is covered with silk. The frames are covered with silk ribbon, the edges fastened together on the inside. The beads decorating them are

affixed when the tatted insertion is sewn in. Each corner rosette has for its center four closed loops, connected with each other at the side; each loop consists of five stitches, one short purl, five stitches, one long purl, one stitch, one short purl and five stitches. Now, with the aid of a crochet-needle, slip three beads over the long purl and fasten it where the loop meets.

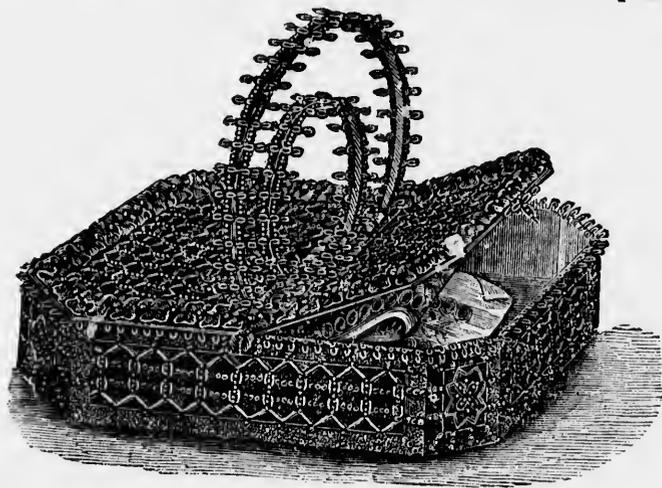


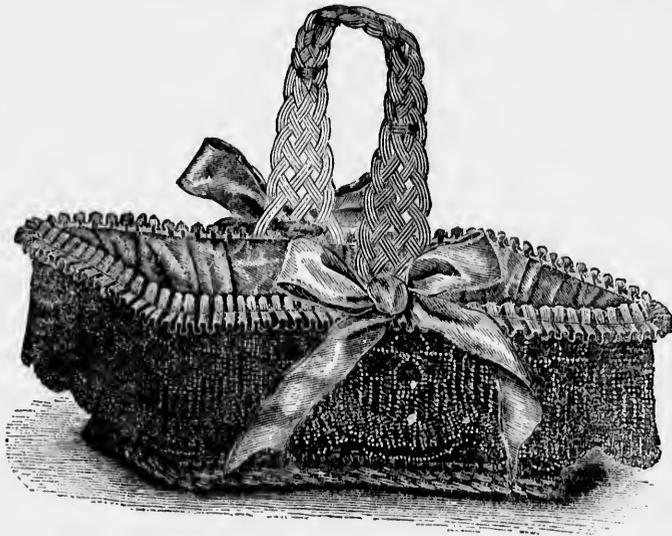
Fig. 31.

For the wall parts repeat the larger loops of the corner rosettes, decorate all the purls with beads, and continue so till the basket is finished. Trim the cover with ribbon ruching.

*Fig. 32* is an oblong basket with braided handle, is elegantly fitted up, lined with white silk and decorated on the outside by a lambrequin worked with beads on canvas, and finished with a ruching of white ribbon. The lambrequin is decorated at the bottom by a twisted fringe of beads, and is sewed beneath the outward curved rim of the basket. The white silk lining is frilled on the sides of the basket and stretched over a cushion

at the bottom, edged with a ruching of white ribbon. The handle is decorated with bows of ribbon.

The elegant basket shown in *Fig. 33* is of brown wicker-work, ornamented with yellow cane. The lambrequin is embroidered in Oriental style on black cloth, with Kensington stitches; the appliques, light blue side stripes and red center



*Fig. 33.*

piece, are fastened to the black ground with button-hole stitch worked in white silk. The three single figures on the side stripes are surrounded by golden yellow Arabesques edged with white, and the long stitches within them are of red, while the elongated branch and the five long stitches at the top are black. A row of light blue Kensington stitches marks the lower edge of the lambrequin between the stripes and borders and crosses the red applique, which, in its four curves, is embroidered alter-

nately with black and white and black and green silks, and in its center with black and yellow. The interlaced ring below the

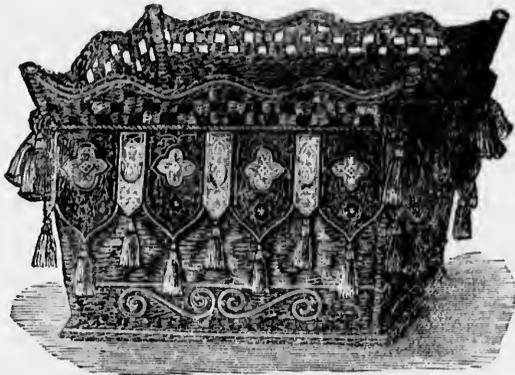


Fig. 33.

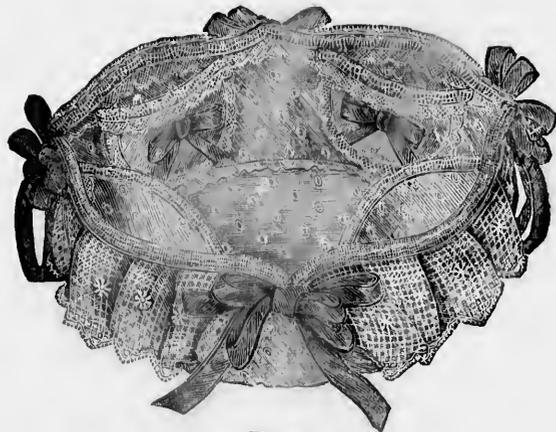


Fig. 34.

applique is of yellow, with purple knots, and the center star is of red and white. All the Arabesques are of old gold; the clover leaves green, with dark brown veins and green stems; the border

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is dark red interspersed by white curves. A tassel is suspended from each point.

Any old basket may be utilized and arranged into the handy and pretty article represented by *Fig. 34*. The basket is covered inside and out with white dotted Swiss, lined with colored silk or paper muslin; the pockets are cut of card-board, rounded at the bottom, and covered in the same manner as the basket, to which they are sewed with very close stitches. A deep fall of lace decorates the basket all around, caught up at four places by bows of ribbon of a color to match the lining. The pockets and top of the basket are edged with narrow lace. A bow of ribbon decorates each pocket.

#### Work-Bags.

*Fig. 35* is a bright, fanciful looking bag, the central part of which is covered with stripes, one of heavy, the other of open work, placed in a diagonal direction, the lower points of which stand out beyond the firm foundation. The bottom consists of six firm pieces of stuff, each four and three-quarter inches deep, and four inches wide at the top. These points are sewn to the bag part, made of chain crochet work. Scarlet merino stripes, with rosettes of tatting, and various intermediate stripes of green, yellow, white, etc., each embroidered with some contrasting color, as buff with scarlet, black with green, blue with white, scarlet with black, and white with pink, would make a beautiful contrast.

*Fig. 36* is a very handsome bag, made by crocheting an upper part, and fitting it around an embroidered bottom, made of six vandykes of linen, embroidered and finished at the top with shaped lambrequins to correspond. These bags can be made very effective and showy, by having the upper part made of crazy work in the brightest of colors, and the under part of Macramé lace.

## Net-Work.

There are a great many persons who prefer white covers for sofa and chair cushions, tidies, and other articles of white muslin, lace or net. These will no doubt hail with delight an opportunity for making, in their spare moments, various beautiful

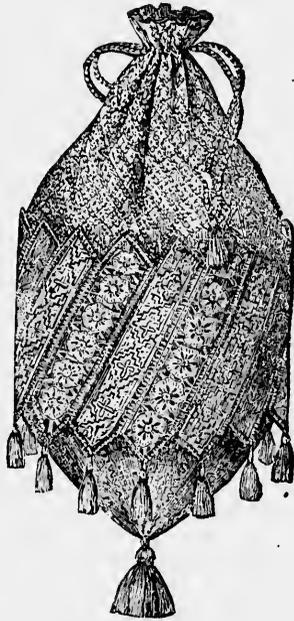


Fig. 35.



Fig. 36.

designs for this kind of work, which is inexpensive, as the materials are different textures of netting, cotton or linen floss. The style shown in *Fig. 37*, with the various squares used in making it, is of great beauty and well worthy of imitation. In this pattern, the divisions of diamond squares, which make triangles at the corners, are worked in a straight net foundation. Each

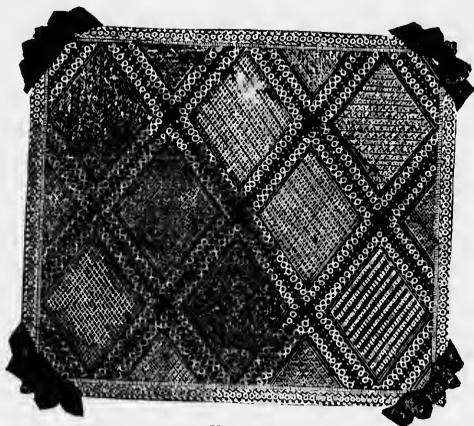


Fig. 37.

diamond is of forty-four net holes on each side, these being first run round plain with the floss, and afterwards filled in, the plain spaces being left for colored ribbon. Elegant bed-spreads and pillow-shams may be made from this kind of work; the center of each should be worked with white floss, in scroll or wreath pat-

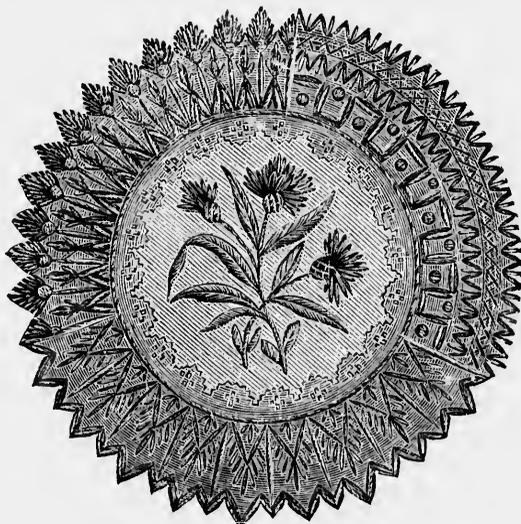


Fig. 38.

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tern. The border worked in Arabesques with scarlet embroidery cotton, and this lined with either pink or blue paper-muslin, looks exceedingly beautiful.

*Fig. 38* illustrates a lace mat in etching, the center being a branch of Cornflowers, surrounded by a border, which exhibits three beautiful patterns, each easily executed, and which may be rapidly accomplished.



### MACRAMÉ LACE.



**M**ATERIALS: A cushion, pins, heavy and fine Macramé thread, according to the texture of the lace desired. This thread comes in all colors, and may be purchased either at a dry goods store or ship chandler's.

The cushion must be heavy, of an oblong shape, and should rest upon a small table.

Begin by pinning the foundation or top line at each end of the cushion with strong pins. The line should be of double thread, and cut the length of the lace required. The lace is made by knotting threads together. One thread is held firmly over the other as *leader*, and each single thread is knotted twice on to it. When a leaf is worked from right to left, the leader is held in the left hand, and when a leaf is worked from left to

right the leader is held in the right hand. Pin on as many straight lines as are required for the pattern.

In commencing a pattern, fasten the threads for working on the top line as follows: Pass the two ends of each thread under

the line, pointing them up; then draw them back through the loop; repeat to the end of the cushion; then put in a pin between every four threads; then loosen the second line, hold it firmly in the right hand, and knot each thread twice on to it with the left hand. The straight lines are always worked in this way. The lace, as a rule, should be worked tightly, as it

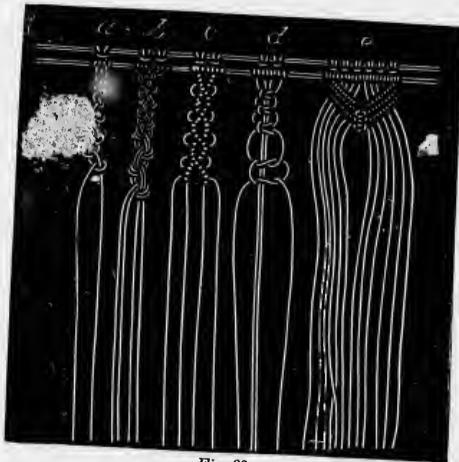


Fig. 39.

adds much to its beauty and durability. *Fig. 39* shows the foundation knots of the lace.

#### A.—Single Chain.

Take two threads, hold one straight in the left hand, knot the other thread on to it once, with the right hand; hold this thread straight in the right hand, and knot the other on to it with the left. Repeat.

#### B.—Double Chain.

This is made in the same way as the single chain, but with four threads, using two threads each time, instead of one.

## C.—Open Chain.

Take four threads, commence with the two at the left side, hold the first of these in the right hand as leader, knot the second twice on to it with the left hand, pass the same leader to the left hand, knot the same thread as before, twice on to it; take the next two threads, hold the first thread in the right hand as leader, knot the second thread twice on to it, pass the leader to the left hand, knot the same thread as before twice on to it, hold the leader still in the left hand, and knot the first leader twice on to it with the right hand; knot the remaining thread at the left side twice on to it, leaving a loop before drawing it up tight. Pass the same leader back to the right hand, and knot the same thread twice on to it with the left hand. Then take up the two threads at the right side, hold the under one in the right hand, as leader, knot the other thread twice on to it, leaving a loop as before. Pass the same leader to the left hand, and knot the same thread twice on to it. Hold the leader still in the left hand, and knot the leader at the left side twice on to it; knot the remaining thread at the left side on to it, leaving a loop as before. Then pass the leader back to the right hand, and knot same thread twice on to it.

## D.—Solomon's Knot.

Take four threads, hold the two center ones straight, pass the thread at left side loosely over these. Take the thread at right side, pass it over the first thread and under the center ones, and up through the loop at left side; draw it up tight. Then take the right-hand thread, pass it over the two center ones loosely, take the left thread, pass it over this, under the center ones, and up through the loop at the right side; draw it up tight to meet the first part of the knot. This forms one Solomon's knot.

## E.—Raised Picot.

The Raised Picot mostly comes between two leaves. Take the four center threads—two from each leaf—hold the two center ones straight, and make six Solomon's knots on to them, pass the two center threads down through the opening between the two leaves; take one of these threads and knot it once to the thread at the left side, take up the other and knot it once to the remaining thread at the right side.

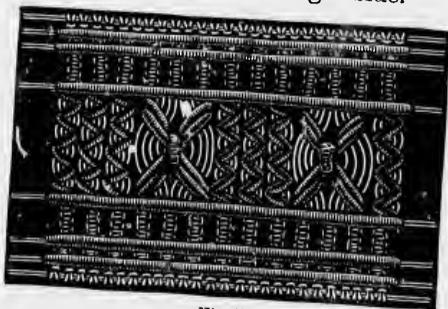


Fig. 40.

*Fig. 40* is commenced by pinning on the straight lines in the usual way. The threads for this pattern should be one yard long. Pass the two ends of each thread under the line, pointing them up; then draw them through the

loop; loosen the second line at the right side, and knot each thread twice on to it with the left hand. Then make a row of Solomon's knots with every four threads to the end, after which loosen the third line and knot the threads on to it as before. Then take four threads and make three Solomon's knots with them; repeat this five times; then make two more chains exactly the same as last. Take six threads, hold the first in the right hand as leader (the leader should always be at the top and the threads underneath), and make a leaf of two rows; then take the next six threads and make a leaf of two rows; then take the center threads of each leaf and make a row of six Solomon's knots; then pass the two center threads of these four between the two leaves, pointing them down, and knot these threads to the other two to form the Raised Picot. Then take the center thread at the left side, hold it in the left hand as leader, knot

the threads on with the right hand to make the lower leaf at the left side, make three more chains and another star of four leaves, with Raised Picot in the center; repeat to the end of the cushion. Loosen the fifth line, and knot each thread on to it as before; take four threads; make three Solomon's knots with these; repeat to the end of cushion; sixth and seventh are done in the same way.

*To Finish Off the Insertion.*

Keep the last line pinned on at both ends; take two threads, draw the second one up under the line in a loop, pass the ends of both threads through this loop, draw them up tight, to form a knot, same as the one at the top line. The threads will now be in front between the two last lines. Pass these threads to the back, one at each side of the knot, tie them firmly together at the back; sew these threads neatly to the work, on the wrong side, with a needle and thread.



*Fig. 41.*

Repeat to the end of cushion, and then cut the threads close.

*Fig. 41* requires the threads for this pattern one and a half yards long. Begin by fastening on the threads in the usual way; then loosen the second line, hold it in the right hand, and knot each thread twice on to it with the left. Take four threads, hold the three first ones in the left hand, knot the fourth thread three times over them with the right. Repeat to the end of

cushion. Take two threads from each, hold three in the right hand, and knot the first thread three times over them with the left. Repeat to end of cushion. Then loosen the third line, hold it in the right hand, and knot each thread twice over it with the left hand. Take eight threads, make a Solomon's knot with the first four, hold the eighth thread in the left hand as leader, and knot each thread twice on to it with the right hand,

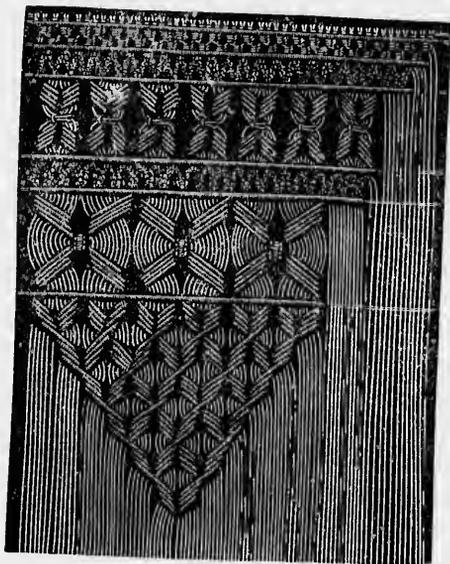


Fig. 42.

take the eighth thread again as leader, and make a second row same as the last; take the next eight threads, make a Solomon's knot with the last four, then take the first thread, hold it as a leader in the right hand, and knot each of the seven threads twice on to it with the left hand. Then take the eight threads again, and make a second row; then make eight Solomon's knots with those threads.

After this, take the first thread at the left side, hold it in the right hand as a leader, and knot each of the seven threads twice on to it with the left hand. Repeat for a second line. Then take the thread at the right side, hold it in the left hand as leader, and knot each thread twice on to it. Repeat for a second line. Take the first four threads, make a Solomon's knot; the same with last four threads. Then take the next four threads, hold two in each

hand, and make twelve double chains; make two more rows of double chain. Repeat for two more lines. Take the center thread at the right side, hold it in the right hand, and knot the five threads on to it with the left hand. Repeat for two more lines, then take the next four threads, and make a row of open chain, then repeat with the next four threads to the end of cushion. Then loosen the sixth line, hold it in the left hand, and knot each thread twice on to it. Take the first four threads, make a Solomon's knot. Repeat to the end of cushion; loosen the seventh line, hold it in the right hand, and knot each thread twice on to it. The next part of insertion is made like the first, and to finish off keep the last line pinned on at both ends; take two threads, draw the second one up under the line in a loop, then pass the ends of both threads through the loop, draw them up tight to form a knot; the two threads will then be in front, between the last two lines. Pass these threads to the back, one at each side of the knot, tie the two threads firmly together at the back, sew

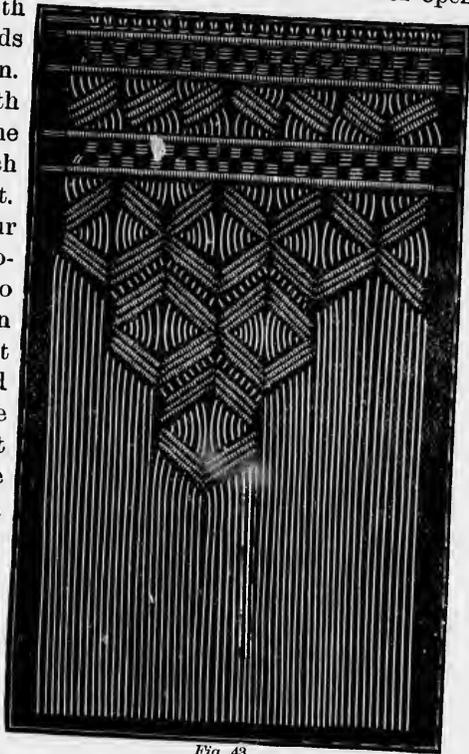


Fig. 43.

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them neatly down on the wrong side, repeat to end of cushion, and cut off the ends close.

*Figs. 42 and 43* represent patterns which are very appropriate for furniture decoration.

The reader will see that all the patterns are given in *Fig. 41*, with the exception of the scallop.

#### To Make the Scallop.

Take six threads; hold the first thread in the right hand, and knot the other five threads twice on to it with the left. Repeat three times more. This forms the first leaf. Then take the next six threads; hold the sixth thread in the left hand, and knot the other five threads on to it with the right hand. Repeat three times more. Join the leaders of both these together by holding one straight, and knot the other twice over it; then take the next six threads, hold the first thread in the right hand, and knot each of the five threads twice on to it. Repeat three times more to form the leaf. Then take the next six threads, hold the sixth thread in the left hand, and knot the others twice on to it with the right. Repeat three times more. When this leaf is finished hold the leader still in the left hand, and knot six threads twice on to it. Repeat three times more to form the leaf. Then take the six threads that were used in making the second leaf of the scallop; hold the first of these in the right hand, and knot each thread twice on to it with the left. Repeat three times more for the leaf. Then join the leader of this leaf to the leader of the leaf next to it. Repeat till the scallop is completed.



#### Crazy Work.

Crazy work, Kaleidoscopic, Kensington patterns, are some of the technics bestowed upon this remarkable needle work, that has become a mania for home decoration. This work is not at

all expensive, and if done artistically, is very pretty and effective. All that is necessary is to cut square pieces, of any desired size, of cotton or calico, for lining, and on these baste the pieces of silk, satin or velvet to be used. Tiny pieces, inch-square strips, triangles, or any shaped pieces may be used. Silk and velvet are the prettiest, and in these days of handsome ribbons are quite easy to get. Where the pieces overlap and join, they are worked in fancy stitches with different shades of embroidery silk. No two pieces of silk should be alike, if a variety of pieces can be had to make this possible, and every conceivable design may be etched or embroidered on the larger pieces—initials, monograms and small flowers may be embroidered and painted. Cupids, horse-shoes, and anything from grandfather's silk hat to grandmother's spectacles, may be appropriately introduced.

This work is used for sofa pillows, chair-tidies, table-covers, etc., and, when worked in with plush or velvet borders, looks exceedingly beautiful. But the *piece-de-resistance* of this work is the bed spread; here full scope may be had to exercise both taste and imagination, until a beautiful kaleidoscopic scene is presented.

These articles, when properly finished, are very expensive. One small spread having Oscar Wilde (as center piece) in æsthetic costume, with a lily in one hand and the orthodox sunflower in the other, sold at a recent fair for \$150.



### Woman's Work and Victory.

In 1870 the wife of General Garfield wrote a letter to her husband, which was intended for no eye but his own. It is so practical, and seems so closely associated with the preceding topics on woman's work, that we yield to our desire to give it in this connection. It is an admirable advocate for the necessity of

busy hands and cheerful hearts, and although not intended for publication, it was made use of by President Hinsdale, of Hiram College, in a lecture, and was afterwards published in the college paper of that institution. The extract from the letter is as follows:

"I am glad to tell that, out of all the toil and disappointments of the summer just ended, I have risen up to a victory; that silence of thought since you have been away has won for my spirit a triumph. I read something like this the other day: 'There is no healthy thought without labor, and thought makes the labor happy.' Perhaps this is the way I have been able to climb up higher. It came to me one morning when I was making bread. I said to myself, 'Here I am, compelled by an inevitable necessity, to make our bread this summer. Why not consider it a pleasant occupation, and make it so by trying to see what perfect bread I can make!' It seemed like an inspiration, and the whole of life grew brighter. The very sunshine seemed flowing down through my spirit into the white loaves; and now I believe my table is furnished with better bread than ever before. And this truth, old as creation, seems just now to have become fully mine, that I need not be the shirking slave to toil, but its regal master, making whatever I do yield me its best fruits. You have been king of your work so long, that may be you will laugh at me for having lived so long without my crown, but I am too glad to have found it at all to be entirely disconcerted, even by your merriment.

"Now, I wonder, if right here does not lie the 'terrible wrong,' or at least some of it, of which the woman suffragists complain. The wrongly educated woman thinks her duties a disgrace, and frets under them, or shirks them, if she can. She sees man triumphantly pursuing his vocation, and thinks it is the kind of work he does which makes him grand and regnant, whereas, it is not the kind of work at all, but the way in which, and the spirit with which, he does it."



By PROF. W. W. TRACY.



THE careful reader of the foregoing pages cannot fail to see that one great essential to success in ornamenting and beautifying the home is true and correct taste, or knowledge and appreciation of what is true beauty, so that the formation and development of such taste are most important elements of our work. How shall we secure this? It is certainly true that no high degree of perfection in any knowledge or art can be attained without constant intercourse and contact with examples of the highest types of that art. Now, without the philosophical discussion and proof by which we might establish the proposition, we will simply state that the ultimate source of all human rules of beauty is in the thought of the Creator, as expressed in the material world, and surely there is no part of the creation which is richer in things of perfect beauty than the *vegetable kingdom*, which seems to have been especially formed to ornament and beautify this earth. If then

we would develop and increase the appreciation of the beautiful, and our ability to enjoy the marvelous beauty which is everywhere around us, if we would prevent our children from growing up into mere human animals to whom

"A yellow primrose by the river's brim  
Or by the cottage door,  
A yellow primrose is to them—  
And nothing more,"

we must have the educating and refining influence of plants and flowers in the home. But you say "I have no luck with plants."

We think the failures in the past have come largely from the want of knowledge how, and persistent endeavors to grow them.

We hope the information contained in the following pages will enable you to overcome the first difficulty. As an incentive to effort to overcome the latter, we mention the case of Mrs. J. C. Loudon. Up to middle life she not only "never had any luck with plants," but did not care to have; yet after her marriage with Mr. L—, who was a noted horticulturist, she came to love them dearly, and was not only one of the best writers on Flower Culture, but one of the best practical growers of them, her plants competing successfully for premiums with those raised in the finest green-houses, and the production of the most skillful gardeners in all Europe. We know of hundreds of such instances and they are so common that we do not hesitate to say that with a few plain and simple directions, such as we aim to give, and a little persistent effort any woman can grow beautiful house-plants which will make her home pleasanter, herself happier, and her children better by their influence. But you say "I have no time to care for them."

Analyze your expenditures for the past year and see if at least one-half of that amount, even though you have tried to be as economical as possible, has not been to please the eye. That calico dress would have been as serviceable if made of unbleached

cotton and as a simple gown gathered by a cord at the waist, and the expense would have been much less. The printing of the cloth and the shaping of the dress was half the labor, and were solely to please the eye. Your house would be as warm and last as long if coated with coal oil instead of the more expensive but more beautiful paint. Even the common needle must be gold-eyed and wrapped in a gilded paper before it can be sold. In fact there is nothing that man uses, from the cradle to the coffin, but what a large share of the labor to produce it was expended for the sake of the beautiful, and fully one-half of all the labor of the past has been to please the eye; but there is no other way by which we can secure so much beauty by the expenditure of so little labor as in the culture of flowers. Is it wise, then, to neglect this, the best means of securing that which we are working for. "But I cannot have flowers because the children would destroy them."

We think this is a mistake. The Michigan State Horticultural Society has been anxious to secure the planting of flowers and trees about the school-houses, but was continually opposed by the argument that they could not keep them, "the children would destroy them." Last year, as an experiment, a collection of thirty varieties of flower seeds was sent to every school that applied for them. Some eighty received and planted the seeds, and made their reports. In all these schools there was not a child which disturbed the plants, but, on the contrary, all came to give them loving care. Every child is born with a love for the beautiful, which makes him delight in, and enjoy flowers, and if, as he grows older, he cares little for them, it is because this love has been smothered from want of opportunity to exercise it. Make your plants from the first *our* flowers and we are certain that your children will not only not injure, but will come to love and care for them. But you say: "I have no good place for plants."

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This is also a mistake, and comes from the popular notion that plants will thrive only in windows fully exposed to the south. It is true that in many cases plants are grown largely for winter blooming, and that they will flower better in abundance of light, but it is also true that there are many beautiful plants which do well with very little sunlight. One of the finest lots of window plants we ever saw, was grown in a small window facing due north, and that in a location very near the 45th degree of north latitude. So we unhesitatingly say that there is no human habitation which has a window but what some plant may be made to thrive there. No, my friend, there is no valid reason why you should not have the educating and refining influence of flowers in your home. And we ask your careful attention to the following simple directions for growing and caring for them:

#### *Plant Stands and Shelves.*

When one is a little cramped for room and wants but a few plants, one or more shelves will be better than any form of stand. They may be supported in many ways, but we think the neatest method is to have each shelf separate and supported by the iron shelf-brackets, which may be purchased for a few cents at any hardware store. The lower one should be below the level of the window, so that the top of the pots will be about even with the bottom of the glass. This is much better than to have them placed as they usually are, because, first, the pots do not shut off so much light; second, the plants look much better when looked down upon from the inside of the room, and the effect from the outside is incomparably better; and last and most important of all, by this means we protect our plants from what is one great cause of failure, namely, the killing of the roots by the direct rays of the sun on the sides of the pot. Where a second shelf is placed above the first we urge that a

strip of green wire-netting, or other similar material, about as wide as the pots are high, be tacked to the casing to protect these pots from the sun and to hide them from view from the street. Where there is more room and more plants are wanted, a plant-stand is desirable. There are many forms of wire stands made which are very pretty, but some of them are objectionable in that when loaded with plants they are so unstable as to be moved with difficulty. We think the handsomest stand we have ever seen was constructed as follows: A circular table or stand four feet in diameter stood on strong, well-braced legs about one foot high, with very large, easy-running castors; it was surrounded by a rim raised about three-quarters of an inch, and fitting nicely to this was a zinc pan made water-tight, so that, if desired, it could be filled one-half inch deep with water. Standing in the center of this, but entirely distinct from it, was a small circular stand of three shelves, the upper one two feet from the pan and about eight inches in diameter, the other two concentric with this, and about six inches wide, leaving about eight inches of the bottom stand as a lower shelf. A little leaf-mould was placed in the center of the zinc tray, covered with moss, and a few plants of some of our large, coarse growing native Ferns set out in it. The upper shelves were then placed in position and the whole covered with tastefully arranged plants, the pots of those on the lower shelf being concealed with Moss and growing Ferns, while these plants concealed the pots on the upper ones, and the Ferns, peeping out from the inside here and there, united to form a beautiful pyramid of foliage and flower. There are many advantages in stands made on this principle. First, they can be made very strong and stiff, so that even when filled with plants they can be moved from place to place to secure sunlight or avoid frosts. Second, the plants can be freely watered, and even sprinkled with an ordinary watering-pot without injury to the carpet; the water-tight tray catching

all the drip and throwing it off again in vapor is most refreshing to the plants in the hot, dry air of our over-heated rooms. And, lastly, during the summer months the upper stand can be put away and the bottom one filled with Moss and shells in which cut flowers can be placed, forming the best possible central ornament. Whatever form of stand is used, see that, first, it is low enough to bring the lower pots below the level of the window; second, that it is strong and stiff enough to move without shaking, even when covered with plants; third, that it has *large* easy-running castors.

#### Flower Pots.

In this connection we wish to call attention to a few facts in regard to plant growth. First, the roots of plants naturally extend to great distances, those of such a plant as we would grow in a two quart pot occupying a circle from two to six feet in diameter. When we pot such a plant the roots soon reach the inside of the pot, and then in their constant effort to extend themselves go around and around close to it, so that nearly all of the roots are on the outside of the ball of earth in which the plant is growing. Again, roots are very susceptible to injury from heat or want of water, but, on the other hand, are equally sensitive to an over supply, or to stagnant water, and can only thrive in cool, moist (not wet) soil. Still another thing to be remembered is, that as our plants grow they must be removed into larger pots. What is desired, then, is a pot which is not injured by the damp earth, which will protect the roots from injury from the hot, dry atmosphere of our rooms, will allow the abundant watering the plant needs and yet allow all surplus water to pass off, and with the inside so shaped that the plant can be removed to a larger one with as little injury as possible. All these conditions are nicely met in the ordinary flower pot, such as florists use. The porous clay is not only a poor con-

ductor of heat, but allows all surplus water to pass slowly through it to the outside, where it is rapidly evaporated, and thus the pot and earth cooled. The shape is such that when suitable soil is used, the ball of earth and roots can be removed unbroken, by simply inverting the pot and giving it a slight tap on the edge. These pots are frequently injured by efforts to improve them—such as glazing or painting the outside. This makes them better conductors of heat, prevents the filtering through and evaporating of water, thus tending to make the earth sour and soggy, and, in many ways, they are far less desirable than the common form. We admit that the simple earthen pot is not handsome, and the better it is doing its work the more unattractive it appears; the filtering water keeps the outside constantly damp, and thus encourages the growth of mould and discolors the clay. To avoid this, pot covers are very desirable—very neat and pretty ones are formed of lattice work and are for sale at all seed stores and florists. When there is plenty of light and a south window, plant boxes may be used to advantage. They should be set low so that the top is level with the window. Very handsome earthen ones are to be found at the stores, but pretty ones can be made at home by covering a box of the desired shape and size with some appropriate pattern of oil floor cloth, or any desired pattern can be drawn on paper and finished as directed for pot covers, and this fastened to the box by cement, and then the whole coated with one or two dressings of varnish or shellac.

Boxes for the outside of the window should have a face one-half inch thick nailed in so as to leave a one-half inch space between it and the outside. This will prevent the inside warping off, and will protect the earth and roots from the heat of the sun.

## Soil.

When we consider that we are asking a plant, which naturally would forage through several square yards of earth soil for its food and drink, to grow and thrive in one or two quarts of earth in a little pot, we can see that the composition of that earth is of great importance. Where small quantities only are wanted, it is easier to get it already prepared from the florists, but where this cannot be done it may be made as follows: Sods from an old turf are piled up and allowed to thoroughly decay. Of the soil thus formed we take one bushel, and add to it one of leaf-mould, one-half bushel of coarse sand, to which we add one or two quarts of wood ashes, one-half bushel of well rotted manure, which has been sifted through a sieve with half inch mesh, and thoroughly mix them together. By leaf-mould we mean the rich earth formed by the decay of leaves or other vegetable matter. It is found in the little hollows in the woods where the leaves have accumulated for years, or beside some old stump or fallen log. Similar and equally good soil is frequently found where a pile of vegetable matter has stood for a long time, or in a fence corner where there has annually been an immense growth of large weeds. This is the general composition of the best potting soil, but the proportions need to be varied according to circumstances. Thus, if the sods come from a heavy clay soil we add more sand. If, on the other hand, they were from sandy soil, we use less sand and add some clay. To this general potting earth we make additions for different plants. For Azaleas, Camellias, Orange and Lemon trees, and such hard-wooded plants, we add to each bushel of the potting earth one-half bushel of coarse sand, about the size of grains of wheat, and an equal amount of clay. For Geraniums and other rapidly growing soft-wooded plants we add more manure and some clay.

## Potting.

It is impossible to describe in words the many indications which show to an experienced grower that a plant needs re-potting. We can only say that, generally, when a plant has reached what seems a disproportionate size for its pot, and the new shoots start vigorously, but soon cease growing, it is probable that it needs re-potting. For this purpose prepare soil suitable for your plant, and see that it is of the right degree of moisture, which may be known by gently pressing a handful of it, when it will form a ball or lump, but will crumble into fine earth again if struck or pinched with the fingers. If too wet, the ball will form but will not crumble; if too dry, it will only form by very hard pressure. Select a pot one or two sizes larger than the old one, and see that it is perfectly clean inside. If particles of dirt or mould are left adhering to the sides the new soil will adhere to them, so that it will be difficult to remove the plant when desired. Place a large piece of broken pot over the hole at the bottom so that it will cover the hole with an arch, surround this with smaller pieces, and cover them with a little earth. Place the hand over the top of the pot containing the plant with the plant-stem between your fingers, invert it and remove the ball of earth by striking the edge of the pot downward upon the edge of the table. If the previous potting has been well done, the ball of earth will come out entire. Place it in the new pot so that the surface will be as high as before, and fill in the earth, pressing it firmly with the fingers, and settling it by giving the pot a sharp rap on the table. If the new pot is clean and the earth in good condition, you ought to be able to remove the new ball of earth without its crumbling, but it should fall to pieces upon slight pressure. Where plants have stood in the same pot for a long time, have been in glazed pots or been over-watered, so that the earth is sour and muddy, it may be well to remove it. This is done by sloshing the ball of earth up and down in a pail

of warm water until the roots are perfectly clean. In such cases, take care in repotting to sift the earth evenly in between the roots so that each will be entirely surrounded by the new soil.

### Watering.

Water is most essential to the development of plants, for by it nearly all the food finds its way into the circulation, and without a uniform and proper supply there can be no healthy growth; so a few words in regard to its action may be of use. If a square inch of soil was magnified one hundred or more times, it would appear like a pile of broken stone, such as builders use, thrown loosely together, with many irregular shaped air spaces between them, through which air and water could readily circulate.

Crowding their way through, and constantly changing the relative position of the particles, are the roots, from the surface of which there project innumerable little hair-like tubes, with very thin walls—these are the true mouths of the plant. They creep along the sides of the particles of soil and imbibe the moisture found upon them, pass it to the roots from which it goes upward through the stems and branches out into the little veins which we save in skeletonized leaves, and is spread out in the green portion of the leaf. Here it is subjected to the chemical influence of the air and light, by which much of the water is thrown off, and the concentrated sap returns into the growing portions of the plant to sustain them. Now, the water itself contains very few of the elements of plant growth; the most essential of them are furnished by the decomposition of the particles of the soil, and the decay of bits of animal and vegetable matter scattered among them, and circulate in a gaseous form through the spaces between the particles, are absorbed by the water gathered on the surface of the particles, and thus conveyed into the plant. If there was no water to carry it, the roots might be surrounded with the best of plant food, and yet the plant

would starve, and if the spaces between the particles were filled with water, there would be little opportunity for the development and the circulation and absorption of this gaseous food. The most favorable conditions are where the particles of soil are kept constantly moist so that there is an immense surface of water exposed for the absorption, and ample opportunity for the circulation of air to hasten the production of this plant food. In attempting to secure this condition, we must keep in mind that the amount of water passed through the plant is enormous, but the quantity varies greatly, being many times larger when the plant is in vigorous growth and exposed to the bright sunshine than when it is dormant or in a dull light. For these reasons, it is impossible to give definite directions as to the precise amount of water plants need; this can only be learned by experience, but a few hints may be of use. Aim to have the soil always moist, never wet or muddy; examine the plants every day, but only water when it is needed.

In judging as to when water is needed, keep in mind the fact stated above in regard to the amount the plant needs, varying with its condition of growth, and also that the soil in a pot will appear much wetter than it really is after a number of days of dull, cloudy weather, and much dryer than it really is during a bright, sunshiny day.

#### *Insect Enemies, Diseases, Injury from Frost.*

The most common and evident destroyer of house plants is the green fly, or aphid. They are green lice a little larger than a pin head which gather in great numbers upon the fresh leaves and shoots, and, puncturing the skin, suck up the sap, and thus injure and sometimes destroy the plant. The only effective way to get rid of them when once established is to fumigate with tobacco. If your husband and his friends do not do this for you it may be accomplished by removing the plants to some

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back closet, or in want of that to a large dry goods box, covered with an old carpet, and then setting among them a dish of live coals, on which a handful of tobacco has been laid. The tobacco should be moist, or even wet, so that it will smoulder but not blaze up, as this is very injurious to the plants. Care should be taken not to create too dense a smoke as it might injure the leaves. Heliotropes and Roses, in some conditions of growth, are quite liable to injury in this way.

*Red Spider.*—Much less conspicuous than the former, but more injurious. They are so small that they can hardly be seen with the naked eye, appearing like little reddish-gray specks, but which run rapidly about if disturbed. They live on the under side of the leaves, but their work shows on the upper surface, first as minute gray dots, which rapidly increase in numbers until the whole leaf is grey and then soon withers and dies. They delight in a hot, dry atmosphere, and the most effectual preventive is to keep a pan of water on the stove or furnace and others sitting among the plants. Where they have gained a foothold they may be dislodged by frequent syringing or sprinkling with water; or better still, by a careful washing off of each leaf with whale-oil soap suds and then thorough rinsing in clear water.

*Maley bug, Scale.*—The first looks like a bit of cotton in the angle of the leaf and stem, and of the second there are many forms, all looking like a little scale, shaped something like the shell of a turtle, and sticking tightly to the leaves or bark. They are more commonly seen on hardwooded plants like the Lemon, Oleander, Camellia, etc. They must be removed by washing with whale-oil soap and then rinsing in water. They never appear on well cared for plants.

*Mildew.*—Mildew appears as a result of want of ventilation, a draft of cold air, an insufficient or over supply of water, or of anything which tends to decrease the vigor and strength of the

plant. It is to be avoided by keeping plants in the most vigorous condition, and may be checked by dusting the plants with sulphur, applying it on a bright day and when the room is very warm.

*Treatment of plants which have been frozen.*—If possible, remove them before thawing out to a dark cellar, where they may thaw out gradually and in the dark. In doing this, handle them with the greatest care; the least jar or motion while frozen is very injurious. If not possible to move them, sprinkle immediately with ice-cold water and protect them from the light and direct rays of heat. If a portion of the plant is evidently killed and there is hope that the root is alive, cut away the injured portion immediately.

#### General Management of House Plants.

Under this head we cannot do better than to quote from Mrs. F. A. Benson, in *Our Continent*:

“It is frequently asserted by amateurs that a knack or witchery is requisite to be successful with house plants, which they do not possess. There are many persons who apparently take little pains with their window gardens, yet their plants thrive excellently and bloom throughout the season, while with others who are continually fussing over the growth in their windows, and perchance coddling it too persistently, the result will be yellow leaves and never a flower. It is well to remember that house plants are very much like infants—they are entirely dependent for their well being upon the *judicious* care of those who nurse them. Ladies very often fill their windows with fine plants and then consign these to the tender mercies of the parlor maid, with instructions to water occasionally, and possibly to give them a breath of fresh air once in a while. As a matter of course the poor things will become sickly and pine away, when their owner will wonder ‘what ails them,’ and probably declare

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she 'has not the gift of making plants grow.' Now common sense, careful judgment, and only a little attention are requisite to have windows full of bloom and stands covered with healthy, thrifty plants. Those who do not love them well enough, however, to give them *personal care* need not expect to keep them in first-rate condition.

"Do not *expect too much* of plants. You may purchase one that is just entering upon its season of rest, when nature requires it to remain dormant. If it shows no inclination to put forth new shoots all there is to be done is to keep it clean and water it moderately. Frequently plants are purchased just as their foliage is at maturity, when within a short time they will wither and droop. This is particularly the case with Maiden Hair Ferns, which are the finest just before their fronds shrivel. A lady brought to a florist the other day the most pitiable looking *Adiantum*, which she had purchased but a week before, when its quivering, wiry stems hung luxuriant with green, lacy foliage. She indignantly inquired if 'that was the kind of plants he kept.' Like many others selecting *Adiantums* she had picked out one for its beauty, when just at its full maturity. Very soon its leaves began to turn, when it drooped, and certainly presented a most dejected appearance. Had its owner but cut off the limp fronds and bore patiently with her fern, in a few weeks it would have uncurled fresh fans of foliage to tremble with every wave of air.

"House plants are usually kept too warm. A temperature from 55 degrees to 70 degrees is better than warmer for the varieties generally cultivated in windows. Give them air, but never expose to draught, which is disastrous. If fresh air can be admitted through an adjoining room it is safer than to open the window at the top. Never lift them from the bottom in winter. As a rule house plants suffer from lack of moisture in the atmosphere; this is especially true where there is furnace heat and

gaslight. It is a very good plan to set pans of water on the plant stand, and to fill the vases in the room with water. This makes a healthier atmosphere for people as well as plants. It is often the case that the only person in the house who will have blossoms on her plants will be the cook, whose windows will be gay with roses and geraniums, because the steam from the boiler and kettles will provide the desirable moisture."

It is highly important to keep the foliage of plants clean, not alone for their beauty, but their health's sake. Wash the leaves *inside* as well as outside, as often as they are dusty. A soft sponge and tepid water are the best for this purpose. To polish Ivy leaves, or those of Palms and Rubber trees, use soft tissue paper. It will make them like satin. Every day pick off any dead leaves or twigs, as these but interfere with the strength of those alive. Blossoms should not be left on too long; they prevent others from forming in perfection. *Never permit bloom to wither on the stem.* Newspapers may be pinned about plants when rooms are swept to protect them from the dust. They can be shielded from the cold in this way if the fires get down on occasions of severe nights.

Stirring up the soil in pots will contribute to the well being of plants. Care should be taken not to dig down too deep and wound the roots. All blooming plants require sunlight; nearly all foliage plants will spindle and grow "white livered" without this great invigorator. It may be readily determined when plants need more light, as they become "drawn"—a term used by horticulturists to denote the lengthening of stems seeking light.

#### Propagation of Plants by Cuttings.

With our first success in plant culture will come requests from our friends for slips or plants like ours, and such requests the true lover of flowers is always willing to gratify; so that a knowledge of how to propagate or increase our plants is desirable.

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Every vigorous branch contains plant food enough to sustain some growth and development and the propagation of plants by cuttings depends upon the utilizing of this stored food for the development of roots, thus converting the dependent branch into an independent plant. In order to secure this result the cutting must be in a vigorous condition and supplied with an abundance of water, in order to assist in the distribution of the food to the place where it is most needed; at the same time any excess of water or contact with decaying vegetable matter is to be avoided, as it tends to cause decay of the cuttings, which have much less power to overcome such tendency than when they were connected with the parent plant.

Gardeners have carefully prepared propagating beds, so arranged that they can control the temperature, not only of the air, but of the soil or sand in which the cuttings are placed, and can regulate it so that the soil is at all times a few degrees warmer than the air above it. This *bottom heat*, as it is called, has a marked influence in causing the development of roots and where it can be maintained at a proper degree, success is almost certain. But nearly as good success is reached by amateurs by means of much simpler arrangements. One of the best is the following: Secure a small pot, about three inches in diameter and with thin walls of very porous clay, dress out the hole in the bottom until it can be easily closed by a long plug or stopper, which should reach to the top of the pot; secure another pot at least three inches larger than the other and fill it with pieces of broken pot until the smaller pot placed upon them will come about half an inch above the other.

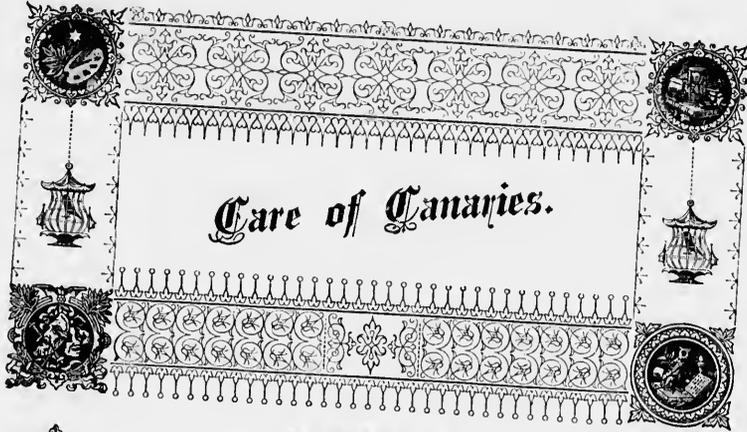
Place the smaller pot in the center, and fill the space around it up to the level of the outer pot with clean, sharp, plastering sand. Before using, the sand should be washed in an abundance of water so as to remove all the vegetable mould, clay, lime or other impurities, as it is very important that it should be per-

fectly clean. Now select good vigorously-growing shoots which have been fully exposed to the light, and make the slips or cuttings by cutting them off just below the second leaf. If the plant has two leaves on opposite sides of the stem, cut just below the second pair of leaves. Cut off the lower leaf or pair close to the stem, and, making a little hole in the sand with a pencil, put it in so that the bottom will slant in towards and almost touch the inner pot. Press the sand firmly about the cutting and add others if desired, the cuttings forming a ring around the inner pot. This should then be filled with warm water, and, as often as convenient, let the cold water out of the pot by removing the plug from the hole in the bottom and refill with warm water. If the whole can be covered with a bell-glass it will be an advantage. As soon as they show by their growth that they are rooted, the plants should be removed from the propagating pot and set in soil.

A second and very popular method is the saucer system. Common saucers are filled with clean, sharp sand, and the cuttings inserted close enough to touch each other; then water until the water stands above the surface, and place the dish on the window-sill in the bright sunshine. The sand must be kept constantly saturated to insure success. If permitted to dry but for a few moments, the cuttings will wilt and all the labor will be lost. When using this method, the cuttings should be removed to pots as soon as they have formed roots half an inch long.



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## Care of *Canaries.*



**O**NE of the most attractive and joyous embellishments of the home, one which, next to the presence of flowers, most gladdens and makes the heart throb, is found in that ever-welcome songster—the canary. No home is now considered complete until this little visitor has taken up its abode in the window-garden or some quiet nook, and we propose to devote a few pages to the proper treatment of this, the most attractive of all domestic pets.

### Cages.

Of first importance to those who propose to keep canaries is the selection of proper cages. The cages in general use are altogether ill adapted to comfort, being open to the air at every point, and admitting a succession of draughts from morning till night. The brass open-barred cages, with sliding doors, now so much in vogue, should be avoided, as water lodging on the brass presents gangrene, and, when this is tasted, produces sometimes

a sudden death. The best cage is made from mahogany and wire. It should be about thirteen inches long, eleven inches high, and eight inches deep, having the top, back, and one of the sides of wood and the other side and front of tinned wire-work, so as to admit the air and at the same time exclude a draught. The cage inside should be painted white. A long, square, but narrow perch should run from end to end, about the center of the cage; and a second of a similar kind, directly behind the two tin pans inserted at the front of the cage, one on either side, to hold the seed. In the middle of the wire-work, at the front, let there be a hole sufficiently large to admit the bird's head while drinking. By having two perches only, the bird's feet will be kept clean and he will have plenty of room for exercise, without injuring his plumage.

In addition to the water supplied in the tin, it is always expedient to have a square earthenware bath, fitted in a mahogany frame, ready for use.

Breeding-cages for canaries are required of larger proportions. The top and sides should be made of wood, the front of strong tin wire. Three or four perches should run across the cage, and a little chamber, or rather one large chamber divided into two, should be made immediately under the top of the cage to hold the nest-boxes; in front of these should be circular holes, to give ingress and egress to the birds; and behind, in the side of the cage, doors by which you can yourself get access to them. Beneath the nest-boxes should be a small cage separated by wires from the larger one. This is for the young birds after they have left the nest. A distinct apartment of this kind is rendered necessary by a habit which the old birds have of plucking off the feathers of their young to line the nest for their next brood. The arrangements for food and drinking water should be the same as in the inner cage; but breeding birds will not require the bath. The wires of cages should not be painted; the

paint is liable to be pecked off, and, being eaten by the birds, proves injurious to them. The best material for this purpose is tinned iron wire, which can always be kept clean and does not rust.

#### Selecting and Breeding.

Birds are known to be old that have blackish, rough scales on their feet, and strong, long claws. A fine, rich, clear, healthy, mealy hen, paired with a healthy, clear, yellow cock, if both are bred from clear yellow stock, will produce handsome jonque birds. There are two classes of clear canaries, of a darker or lighter shade of color, designated by the synonymous terms, yellow and white, jonque and mealy, orange and white, and gold and silver.

To match birds of the same nest for breeding is considered unadvisable, as it will in every respect weaken them. To breed crested birds, if one has a fine crest, match it to an opposite. Good birds may also be obtained by having one parent handsomely pied, and the other clear yellow or mealy. Cinnamon-colored birds are to be obtained by matching a green male and clear yellow or mealy female, or the reverse. Some persons pair their birds the latter end of February; others a month later. As soon as the birds are paired, keep feeding them high, and add a little moist sugar to the bread and egg until the hen has commenced laying, as it will prevent her becoming egg-bound.

#### General Treatment.

In winter canaries should not be allowed to remain in a cold room; in summer it is proper to allow them fresh air, which they enjoy, and in the light and heat of the sun they sing gayly and freely. Wholesome air and a lively situation will keep your birds in spirits and health; but beware of placing them in draughts, as many birds contract colds, asthma, and other diseases from that cause.

Cleanliness being a great preservative against most of their disorders, at the bottom of the cage a false bottom should be made so as to draw out, that it may the easier be cleaned and covered with sifted gravel or sand; some persons recommend sea-sand, the saline properties of which are considered good. Keep the birds' feet clean, and fresh water should be given them every day. The cages and birds must be kept free from vermin: examine the crevices and cracks of your cages, and if you find vermin, remove the bird and wash the cage with a mixture of tobacco and sulphur placed in boiling soap and water; should the bird have any parasites, syringe him daily with this mixture when cool, and while the bird is damp sprinkle over him Scotch snuff. In the course of a week he will be free from insects. If a piece of old mortar and plenty of gravel are kept at the bottom of the cage, it will aid in keeping the birds healthy.

Canaries should not be put up for breeding too early in the season. When the nests are made, the hens soon commence laying. A canary lays, on the average, from two to five eggs, and the time of sitting is thirteen days. If three days afterwards any of the eggs remain as they were, remove them with a warm hand and place them gently in some water. If they are alive, you will then, by watching, see some evidences of the fact, and must tenderly replace them; if you do not, they may be destroyed.

When birds are sitting, it is not desirable that they should wash themselves all over, but it should be remembered that the canary loves a bath, and that she should be judiciously indulged in this way.

German canaries are the most delicate, and, in our capricious climate, are not long livers; it is not well, therefore, to use them for breeding purposes. The Belgian birds are large, give a healthy stock, and are most sollicitous in attending to the wants of their offspring.

The materials for nest-building can be purchased of the dealers, but before using they should be freed from dust and dirt, and well washed in clean hot water to destroy any vermin that may be lurking therein.

Should the parent bird neglect to feed the young—a result which sometimes follows pairing at the wrong time of year, or from pairing birds before they are old enough—procure a piece of stale wheaten bread, the best: grate, and mix with some bruised and scalded rape-seed and a small portion from the yolk of a hard-boiled egg. Remove the nestlings to a warm corner and cover the cage up to exclude draughts. Feed with this preparation every quarter of an hour, using, by way of spoon, the finely pointed end of a short stick. Occasionally let a drop or two of water fall into their open beaks.

Young birds, unless neglected by the old birds, should not be removed until they are five weeks old, and their food should be very gradually changed. Afterwards keep them in a warm room, and within hearing of a good songster. During breeding you must not pry too closely into the proceedings of your birds. When it is found either desirable or necessary to feed the young birds by hand, they should be removed from the nest when they are about eight or nine days old.

The average duration of a canary's life, in a state of celibacy, is from sixteen to twenty years; but when kept for breeding it will last scarcely half as long.

In feeding your birds see that the canary-seed is large and glossy, and the rape or flax-seed large and new; and in mixing them together, use the two last in smaller proportions. Give a very little bruised hemp-seed occasionally. Great care should be taken with the food while breeding. Birds should have green food occasionally, but not too often; and for this purpose it should be gathered dry and given fresh. It is cruel to keep a poor little prisoner within sight of such a tempting luxury as

green food, and yet neglect to gratify him now and then with a gathered leaf.

When you are in the habit of letting your birds loose, to fly about the room or in the aviary, and want to catch them, use a circular hoop-net of stout string, made deep and fastened on a wire hoop attached to a pole about six feet long—not less. By the skillful use of this net, you may secure the bird without destroying the beauty of its plumage.

The canary is generally a very tame bird, and if made a pet of, will acquire or may be taught many amusing little tricks, expressive of his appreciation of your love, and consequent attachment. Of all birds, he is the least shy and suspicious. Canaries will sometimes acquire the habit of picking out their small feathers and thus disfiguring themselves. The only way of combating this habit is by suspending a counter attraction for them to pick at—such as a piece of packthread saturated with sugar and water, and hanging nearly as low as the perch.

#### Moulting.

When a canary moults in July or August, according to the warmth or coldness of the season, all you need do is to keep him quiet and free from draughts. Feed him with a very small quantity of raw beef, scraped and moistened with water, once a week, and occasionally a little of the yolk of a hard-boiled egg, with now and then a piece of sponge-cake, and ripe chickweed in full flower.

#### Diseases.

As birds are attacked with various diseases, we enumerate the following symptoms:—Placing their heads under their wings; lowering their wings; their feathers becoming bristled, uncompact, or loose; a cough, whine, or moan, as if they were in pain; panting in their breathing, etc. Great negligence is often displayed in not, immediately they appear unwell, administering in

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their food or water such medicines as are essential to their cure. In all cases where milk is administered in warm weather, remove it before it becomes acid.

*Asthma.*—This disease arises from neglected colds, exposure to draughts, or from the birds being kept in very hot rooms. The symptom is a gasping as if for breath. Pure mild air and salutary food may in this case benefit, but it is seldom cured. Chickweed, groundsel, or watercress, will sometimes ease the bird; lettuce and endive leaves are also recommended. Castor oil, with fresh milk and bread, sulphur in the seed, and a small quantity of camphor in the water, are given to birds suffering from this complaint.

*Consumption, or decline.*—Atrophy is the form this disorder sometimes assumes in its earlier stages, produced from impure air or improper food. In addition to their ordinary food, give millet-seed, a little fresh milk and bread, watercress, or chickweed; place in the water a small piece of camphor, and in the seed a small quantity of sulphur occasionally.

*Epilepsy.*—This disease exhibits itself in sudden fits. The readiest method of treating is to syringe the bird well with water. Some persons have recourse to cutting the bird's toe-nail until it bleeds.

*Ulcers.*—If soft ulcers arise on the head or other parts, anoint them with sweet or olive oil. Tumors require opening and drawing

*Giddiness.*—Some birds, that have been in cages open at the top, acquire the habit of twisting their heads and necks so far back as to overbalance themselves. When this is the case, remove them to covered cages, or place a dark covering over the top of the cage.

*Baldness.*—Should your canary become bald about the head or neck, and be given to moping, there is no doubt that he has the "surfeit." This arises from the bird being fed on bad seed,

or unripe green food, causing a humor of an acrid nature to exude from the skin. Wash the bird's head night and morning in salt and water, drying it with a soft clean cloth. Then rub in on the bald places a little lard or fresh butter. Repeat these operations for a week. This will cure the disorder, and in the spring the feathers will again begin to appear.

*Huskiness.*—When this disorder is detected the bird should be kept warm and free from draughts. Its food should consist of finely-scraped beef, mixed with hard-boiled yolk of egg, with a little cold water to dilute. Before giving this, put some boiled milk into the drinking glass; do this for two days and then give the prepared meat.



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IN the preceding pages we have mentioned numerous varnishes, compounds, etc., which the operator may find difficult to purchase. Some of them being expensive and frequently impure, we give the recipes for making the most important of these, so they may be made at a trifling expense, and used while pure and fresh.

#### *Grecian Varnish.*

Take three ounces of fir-balsam, two ounces of ninety-five per cent. alcohol, and one ounce of rectified spirits of turpentine. Shake well together. Strain, if requisite, and it is ready for use.

#### *Spirits Sandarac Varnish.*

Six ounces of pulverized sandarac, two ounces of pulverized shellac, four ounces of pulverized resin, four of turpentine, thirty-two ounces of alcohol. Let the vessel you make it in be surrounded with warm water gradually made hot. When all the gums are dissolved, strain, and in a few days it will be ready

for use. This is good for varnishing anything that is wanted to dry quickly.

#### Transfer Varnish.

To six ounces of fir-balsam add twelve of rectified spirits of turpentine, shake well together, strain if requisite, and it is ready for use. This is good for transferring engravings, and holds the ink firmly. It is sometimes used for varnishing maps, engravings, etc.

#### Mastic Varnish.

Dissolve (without heat) six ounces of bruised mastic in twelve ounces of rectified spirits of turpentine; when dissolved, strain it into another bottle, cork it and place where the sun will strike it. After a time there will be a precipitate, and the clear portion may then be put in another bottle. This is good for maps and engravings.

#### How to Make Transfer Paper.

Take an opaque color and mix it with a very weak solution of gum water. The opaque colors best for this purpose are Indian red, yellow ochre, chrome yellow, and white. When mixed, coat it over thin drawing paper with a flat brush; when dry it is ready for use. It is very serviceable to transfer your sketch made on the tracing paper. For oil pictures, for instance, when you have made your sketch on the transparent tracing paper, place your transfer paper the color side to face the canvas. Fit on your trace and mark all your drawing with a bone tracer or with the point of a sharpened pencil stick, when a very legible outline will be transferred to the canvas of whatever color your transfer paper is. Of course you will choose a color that will show. Chrome or yellow ochre shows quite sufficiently on light colored canvas. After removing your paper it is well to mark over on your canvas with lead pencil.

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In making the transfer paper be careful not to put too much gum in, or the color will not leave so easily as is requisite for tracing.

#### Tracing Paper.

Get a sheet of fine tissue paper and rub it all over thinly with clarified linseed oil, when it will be quite transparent; hang it up to dry; it takes some time to dry, but it must be allowed to dry thoroughly before using it, or it may spoil the picture or engraving you trace from. With this kind of tracing paper, being transparent, you have merely to place it over pictures or engravings, and with a lead pencil mark over your drawing with a steady hand.

#### Antique Varnish.

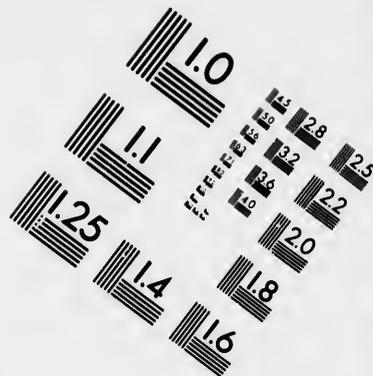
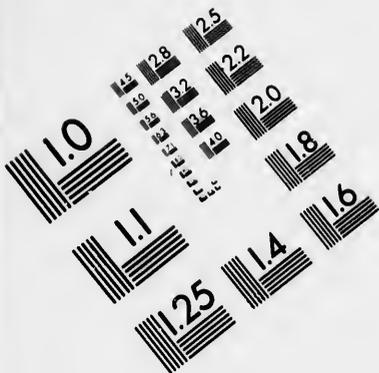
*This recipe has never before been given, although large sums have repeatedly been offered for the secret.* All other recipes are worthless, and no other preparation will stand the test of time as this has done.

Take one ounce of pure Venice turpentine, mix well with two ounces of pure spirits of turpentine, warm in a large bottle. In another bottle put four ounces of best fir-balsam (*it must be pure*) with two ounces of ninety-five per cent. alcohol, shake each bottle frequently for six hours or more, then mix both preparations in the large bottle. The whole should stand in a warm place for several days before using.

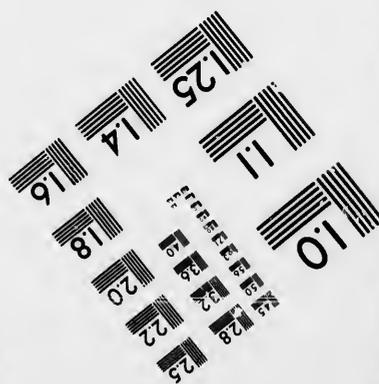
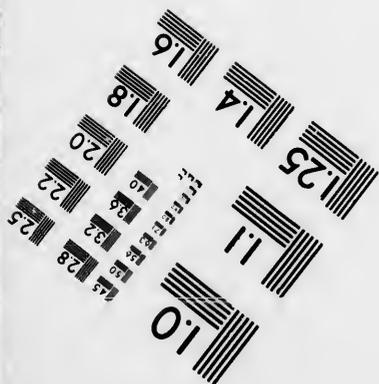
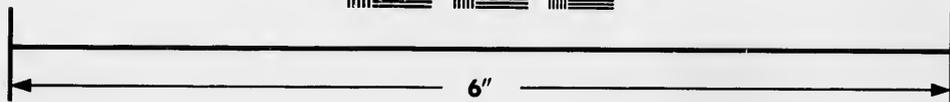
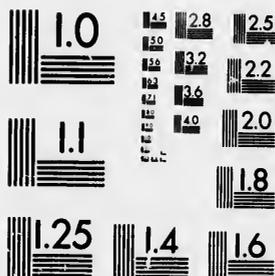
#### Cabinet Varnish.

To one gallon of alcohol add six ounces of gum sandarac, three ounces of gum mastic, one-half ounce turpentine varnish. put all in a tin can and in a warm place, occasionally shaking. Twelve days or so will dissolve the gums, strain and it is ready for use. This varnish is good for any kind of wood work, violins, etc.





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*Turpentine Varnish.*

To one gallon of oil of turpentine add five pounds of powdered resin, boil for thirty minutes, strain it; when cold it is fit for use.

*Recipe for Making Gold Size.*

Take one pint of boiled oil and three-quarters of a pound of litharge, boil them together for three hours, occasionally stirring it up, when cold let it settle for a few days, pour off the clear liquid and it is ready for use.

*To Clean Cabinet Work.*

An excellent method is, in the first place, to saturate the surface with pure olive oil, and then apply a solution made by dissolving gum arabic in boiling alcohol. This will give to the furniture a most brilliant appearance.

Another mode is to dissolve a pound and a half of potash in a gallon of hot water, then add a pound of virgin wax, and after boiling it for half an hour allow it to cool and the wax will rise to the surface. Put the wax into a mortar and work it with a marble pestle, adding soft water until it becomes of the consistency of soft paste. Lay this on the furniture and rub it carefully, when dry, with a woolen rag, and a beautiful brilliancy is soon obtained.

*Turkish Cement.*

Take two drachms of isinglass, moisten it with water, and let it stand until softened; add as much proof spirit as will rather more than cover it, and dissolve with a moderate heat. Take one drachm of gum mastic and dissolve it in two and a half drachms of rectified spirits. Mix the two solutions and stir in one drachm of gum ammoniacum, in a fine powder and rubbed down with a little water. Keep it in a bottle tightly corked. When required for use, put the bottle in warm water and apply

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the cement with a brush to the article to be cemented, which should have been previously warmed. Use a very thin layer. This cement is easily kept and is very useful.

#### To Imitate Black Walnut.

Poplar, or white wood, may be made to assume the appearance of the finest black walnut by treating as follows: Thoroughly dry and warm the wood, and coat once or twice with a strong aqueous solution of extract of walnut peel. When half dried, the wood is brushed with a solution compounded of one part, by weight, of bichromate of potassa in five parts of boiling water, and, after drying thoroughly, is rubbed and polished.

#### Stains for Wood.

To stain wood red, take two ounces of Brazil wood and stir up well in a quart of water; add two ounces of potash and let stand in a warm place for several days. When ready to use, heat this liquid until boiling hot and apply with a brush to the wood till the desired depth of color is obtained; with another brush, dipped in a solution of alum and water, brush over the wood before the stain is dry, when a beautiful and durable red will be formed.

A pink or rose stain may be made by using more of the potash. To stain wood black use a decoction of logwood and then brush over with good black ink.

All light woods may be dyed by immersion. A fine crimson is made as follows: Take one pound of ground Brazil wood and boil in three quarts of water, add one-half ounce of cochineal, and again boil for the same length of time. The wood should be Pear wood or Sycamore.

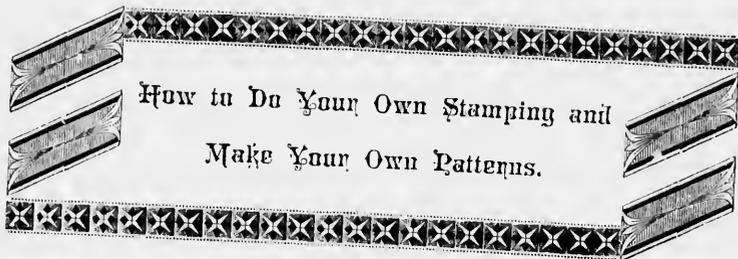
To stain wood purple, take one pound of logwood chips, soak in three quarts of water, boil well for an hour, and add four ounces pearl ash and two ounces powdered indigo.

To stain wood blue, put one pound of oil of vitriol in a glass bottle, in which there are four ounces of indigo; lay on the same as black. A fine green: Three pints of the strongest vinegar, four ounces best powdered verdigris (poison), one-half ounce sap green, one-half ounce indigo. A bright yellow may be stained with aloe; the whole may be varnished or polished.

To improve the color of any stain, mix in a bottle one ounce of nitric acid, half a teaspoonful of muriatic acid, a quarter of an ounce of grain tin, and two ounces of rain water; mix two days before using and keep the bottle well corked.



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How to Do Your Own Stamping and  
Make Your Own Patterns.



IN the following chapter are given full instructions for dry and wet stamping, explaining how to make stamping powder, how to mix white paint for stamping dark goods and black paint for stamping light goods.

The articles necessary are, a sheet of writing paper and a piece of transfer paper. The transfer paper can be made by rubbing white paper with a composition consisting of 2 oz. tallow,  $\frac{1}{2}$  oz. powdered black-lead,  $\frac{1}{4}$  pint linseed oil, and sufficient lamp-black to make it of the consistency of cream. These should be melted together and rubbed on the paper while hot. When dry, it will be fit for use.

In order to make a perforated pattern of any engraving, procure a piece of writing paper a trifle larger than the design to be traced, and put a piece of transfer paper on the writing paper; then place *both* sheets directly under the engraving and pin the three sheets together at one end, having the transfer paper between and dark side facing the writing paper. You then take a quill with a fine point, (a knitting needle will do nicely), and, without leaning too hard, go over all the outline of the engraving. You must be careful not to press your fingers on the engraving, as this would cause a deposit of powder, the same color as the transferring paper, on the writing paper. Now remove the transfer paper, and you have the design accu-

rately traced, and the pattern is ready to be perforated. Lay a couple of folds of velvet or felt on the table, place the pattern on this, and with a needle of medium size (or tracing-wheel) prick out the pattern, being careful to follow the outline closely, and make the perforations quite close.

*Mechanical Enlargement of Designs.*—The reader has doubtless admired many small designs, and would like to have the same design on a larger scale. The following method can be successfully used in enlarging paintings, photographs, etc.:

The simplest way is to enlarge by the eye as artists do. One method is to divide the whole design into squares, and rule off the paper to be enlarged in corresponding squares of larger size. Each portion within the square is then exactly reproduced, copying the portion in the smaller square. For embroidery designs especially we should think this would be very good. For further directions see chapter on oil painting.

*Dry Stamping.*—This is done by a process known as pouncing. The process is as follows: Place the pattern (rough side up) on the material to be stamped, placing heavy weights on the corners to keep it from slipping; then rub the powder over the perforations with the pounce or distributor (described below) till the pattern is clearly marked on the material, (this can be ascertained by lifting one corner of the pattern slightly). Then remove the pattern carefully, lay a piece of thin paper over the stamping and pass a hot iron over it; this melts the gum in the powder and fastens the pattern to the material. The iron should be as hot as possible without scorching the cloth. Should the heat change the color of the material, iron it all over. Do not do any stamping by this process on a hot or damp day if it can be avoided. Keep the powder in a cool, dry place. In stamping with light colored powders, the best way to fasten it is to hold the back of the cloth against a stove pipe or the face of the iron. French stamping is better, however, for all dark materials. To take the powder up on the distributor, have a tin plate with a piece of woolen cloth glued on the bot-

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tom, sprinkle a little powder on the cloth and rub the distributor over it, taking care to shake off all the powder you can; enough will remain to stamp the pattern clearly.

*To Make a Distributor.*—Take a strip of fine felt, about an inch wide (a strip from an old felt hat is as good as anything), roll it up tightly into a roll, leaving the end flat, and rub the end over a piece of sand-paper, to make it smooth and even.

*To Make Blue Powder.*—Take equal parts of pulverized gum damar and white rosin, and just enough Persian blue to color it; mix well together.

*Other Colors* are made the same, using for coloring chrome yellow (for light colored powder), burnt sienna, lamp black, etc. Black powder is improved by adding a little blue to it.

*To Make White Powder.*—Take one ounce White Lead; half ounce Gum Arabic, in the impalpable powder; half ounce White Rosin, in the fine powder. All well mixed.

*Superior Dark Blue Powder.*—One ounce White Rosin, one-half ounce Gum Sandarac, one-half ounce Prussian Blue, in fine powder. Mix all thoroughly.

*French Indelible Stamping.*—This is the best process for all dark materials, in fact, this and the blue powder are all that will ever be needed. By this process a kind of paint is used instead of powder, and a brush instead of a pounce. Place the pattern on the cloth, smooth side up if you can, though either side will work well, weight the pattern down as in stamping. Rub the paint evenly over the perforations, and it will leave the lines clean, sharp and distinct. After the stamping is done, the pattern must be *cleaned immediately*, this is done by placing the pattern on the table and turning benzine or naphtha over it to cut the paint, and then wiping the pattern *dry on both sides* with an old cloth, or, better still, with common, waste, such as machinists use to clean machinery; this is cheap, and absorbs the paint and naphtha quickly; hold the pattern up to the light

to see if the holes are all clear, if they are not, wash it the second time. *Do not use the pattern for powder immediately after it has been used*, let it dry a short time, otherwise the moistened gum will clog the perforations.

*To Make the Paint.*—Take zinc white, mix it with boiled oil to about the thickness of cream, add a little drying, such as painters use. Keep in a tin pail (one holding about a pint is a good size), have a piece of board cut round, with a screw in the centre for a handle, to fit *loosely* into the pail; drop this on the paint and it will keep it from drying up; add a little oil occasionally to keep the paint from growing too thick, and it will always be ready for use.

*The Brush.*—Take a fine stencil brush, or any brush with a square end, wind it tightly with a string from the handle down to within one-half inch of the end, this will make it just stiff enough to distribute the paint well. Keep the brush in water, to keep it from drying up, taking care to wipe off the water before using.

*The Care of Patterns.*—New patterns, before being used, should be rubbed over on the rough side with a smooth piece of pumice stone, this wears off the burr and makes the stamping come out cleaner and finer. When patterns are so large that they have to be folded, iron out the creases before using them. After using the patterns for powder stamping, snap the pattern to shake the powder from the perforations. After using the patterns for paint stamping, they should be washed thoroughly with naphtha, until the perforations are all perfectly clear. Keep the naphtha away from the fire. After the pattern has been washed, do not use it for powder until it has had time to thoroughly dry, otherwise it will gum up the holes and spoil the pattern.

If these directions are carefully followed, the stamping will always be satisfactory.

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## Kensington Paintings.



### Kensington Outline Painting

**T**HIS painting is so called because it is an imitation of the Kensington silk embroideries done with the needle. It is not an easy painting by any means, but work which requires an intimate knowledge of painting, the use of oils, and shading. Of course in all work inferior and tawdry work may be done, whether it be with the brush, pen or needle, but it is possible to produce, and there are being produced constantly, exquisite pieces of Kensington painting by careful workers, which at a distance can scarcely be distinguished from the needle-work they are intended to represent. It is scarcely possible, in a written explanation of artistic work, to give as full and complete information as in act-



ual teaching, but if the instruction hereafter given is carefully followed, a good idea of the mode of operation is obtained.

In Kensington Painting, the paint used is obtained in tubes, and is the same used for oil painting on canvas. It is better to use the paint as it comes from the tubes, without moistening or thinning it. The paint is thus purer, and gives a heavier and richer appearance to the work. The paint may sometimes dry, in which case it may be moistened with a drop of linseed oil or turpentine. It is not necessary to have a palette in using the paints, as a broad-bladed knife serves the purpose just as well. The knife is held in the left hand with the sharp edge towards the worker. The only other articles required to complete the list are two long-pointed pens, one smaller than the other for the more delicate work of finishing off; a camel's hair brush No. 5, cut square off so that it cannot be rolled to a point; a darning needle No. 18 or 20; and a rather fine needle with the eye-point stuck into a pencil, or a wooden handle to make it firm. With these few and simple utensils the operator is ready for work.

If, for instance, it is desired to make a spray of daisies and a fern on a piece of black velvet, on which the design has first been stamped, the velvet is stretched on a smooth piece of board, and fastened to it with very small tacks, care being taken that the pile, or nap, of the velvet selected, is not too long or thick. The velvet is put on without any wrinkles, and the pile worked down as smooth as possible. The white of the daisies is the first thing



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The meanest flower that grows can give thoughts  
that too often lie too deep for tears.

to make, which is done by placing as much zinc paint on the knife as will complete the flowers. A small slice of paint is cut from the lump, with the coarse pen, then placed upon the knife blade and worked from side to side of the pen, with the hollow part of the pen *from* the operator, until it is well worked and soft. The point of the pen is then drawn through the paint sidewise, until there is a strip of paint in the narrow part to the point of the pen. The operation is begun at the top of the flower by sticking the pen into the pile of the velvet, in about the same way that ink is put on paper, and the paint is left as near the top of the leaf as possible. The fine pen is then brought into use in stroking the paint down toward the centre of the flower, with the nibs well opened in so doing. As the flower is naturally darker toward the centre, less paint is worked into it, and the dark of the velvet serves as the shade at the bottom of the flower. Care must be taken to put the paint on in large quantities, or the flower will look flat and thin, and unlike the silk embroidery it is intended to imitate. It takes but little practice until the worker is able to easily imitate the thread-like appearance with the strokes of the pen.

In making the leaves, the brush is used. It is put into a lump of paint, of whatever kind is used, and twirled round until it is thick with paint at the point. The brush is then pressed down into the pile of velvet at the top of the leaf, and rolled between the thumb and fore finger lightly, leaving the paint on the sides, which is afterwards stroked down by the fine pen as in making the flower. When the leaf is small, the large pen is used in putting on the paint, but when the leaf is large, and it is necessary to put the paint on thickly, the brush can be used to better advantage. It is more difficult to use the brush than the pen, but as the use of the brush expedites the work, and a little practice renders the worker proficient in using it, it is better to use it.

Sometimes in making leaves, bright colors are required, but instead of putting them on separately, it is better to mix them

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on the knife blade with the pen, and then apply. If, for instance, a rose leaf is to be made, instead of using all green and



then putting in the veins and dark shades with some other paint, it is better to have a little yellow, burnt sienna, and Indian red mixed along with the green, and it is then applied

with the large pen, and stroked with the small one, as was done with the white in making the daisies. This is done in this manner to give the paint the appearance of varied silks.

The stems and ferns are made by using the darning needle, which is rolled through the moistened paint until it is thickly covered. It is then passed heavily along the centre of the stem to be made, thus leaving more paint on the sides. In making the smaller stems and ferns, and all fine work, the small needle is used.

A great deal of judgment and taste must be exercised in the choice and application of the paints, special care being taken to imitate the natural colors of the flowers and leaves. In making a leaf that has nothing but green in it, nothing but green paint is used. The leaves of ferns, and the lily-of-the-valley are almost entirely green, with a slight touch of yellow or red.

Diamond dust may be sprinkled into the paint while it is moist, as it gives a decided improvement to the work. The velvet is left tacked to the board until the paint is thoroughly dry, when it can be dusted with a whisk without injury.

*Kensington Oil Painting.*

*Oil Painting on Velvet with Brush and Pen.*—Colors used: Geranium Lake, White, Madder Lake, Emerald-Green, Chrome-Yellow, Raw Sienna, Raw Umber, Naples-Yellow and Vermilion Red. This shows plainly how to paint Moss Roses, Wild Roses, Easter Lilies, Wegelia, Poppy, Daisies, Golden Rod and Wheat; telling what paints to use for each flower, the order in which they are applied, and how to mix them to produce the desired shade in each flower, etc.

It is the design of this chapter to give, in an easy and simple manner, such useful and practical instructions to beginners in the art of flower painting, as shall enable them to make rapid and satisfactory progress. In the range of material objects which attract the attention and now employ the pencil of the artist, none are more inviting than flowers. Everything which can charm the eye is found to be associated in their forms, elegant, graceful and varied, giving rise to combinations of light and shade, similarly diversified and charming. These colors, ranging from one end of the chromatic scale to the other, embrace within their scope the most brilliant and gorgeous hues, the tenderest and most delicate tints, while they possess, in addition, surface and texture of equally varied character; thus combining in themselves every physical attribute of that subtle and elusive quality—beauty. It is only surprising that more regard has not hitherto been bestowed upon flower painting.

*Directions.*—To put material on the stretcher, first procure a piece of card-board a little larger than the cloth upon which you are going to paint; then baste the material upon the card-board, stretched enough to lie smoothly. It may be surprising to know that the most of the painting is done with a tooth-pick or pen placed in a holder, the same as for writing. Instead of using a pallet for holding and mixing paints, you must use a common table knife; then take a small quantity of

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the paints you are using and place here and there along the knife. Using the knife for holding the paints is one of the secrets of the art (simple as it may appear). If you should use a pallet, you will find that when you have a quantity of paint on the pallet, and you dip your pen in it, the paint has clogged the point of your pen so that you cannot see the point. In order to do the work neatly this must never occur. When you are ready to put the paint on the material, the paint on the point of the pen should be where the ink would naturally be in writing, on the under side of the pen. In order that the paint may be left only on the under side of the pen, you must use for a pallet something that has a sharp edge; so that by using a knife, after you have dipped the pen in the paint, you have a desirable edge to draw the edges of the pen over, thereby cleaning the edges of the pen to the point, leaving the paint on the back, or in the hollow of the pen. The proper way to work is to hold the knife in the left hand, up from the table, and with the right hand do the painting. You can move the material if you wish, when you have finished one part of a flower, to the position that will be most convenient for yourself, being careful not to rest your hand on the paint you have just put on.

*Using the Pen.*—Hold the pen in your hand the same as for writing; place the point of the pen on the line of the design with the edge side of the pen under (instead of the hollow side under as in writing), with the hollow side of pen facing outside of pattern. Then, as you draw the pen toward you in making the stitch, gradually turn the pen so that the hollow side of it would come under (as in writing). The stitches are generally from  $\frac{1}{16}$  to  $\frac{1}{8}$  of an inch in length. It is difficult to say just how long the stitch should be, as they vary in different flowers and different parts of the same flower. It is a very peculiar painting; standing a short distance from the work it looks very much like the Kensington embroidery. After the

outline of the leaf is finished with the pen, representing the Outline Stitch, the brush is used for filling in the proper shade of the leaf. After the leaf has been painted with the brush between the outlines, the pen is used in making the veins of the leaf. The veins are painted to imitate the stitch the same as the outline. Nearly all the large flowers are made similar to the leaf. The outlines of the flowers and corolla are finished with the pen, also representing the stitch; the filling in between the outline is done with the brush. Always paint the corolla near the centre a trifle deeper than the outside or edge of the flower.

*The Structural Arrangement of Flowers.*—The blossom of a plant, or that which is usually denominated a flower, is generally composed of the following distinct parts: The Calyx, so named from a latin word signifying a cup; the Corolla, named from a latin word denoting a crown; the Pericarp is the seed vessel, or organ of generation. When coloring a flower or object, use a color the same as the object to be delineated; the outline completed, the next process is to tint in the different local colors. Never work to, but always from the starting point. Properly speaking, there are but three colors in nature, these are red, yellow and blue; they are called primaries. Orange, green, purple, and all other hues, are only composed from the first three named. The student has then to consider when regarding a color in nature, if it be not one of the primaries, in what proportion it is composed of them. For instance, if orange be the color under consideration, the proper quantities of the red and yellow must be determined by mixing a little of each, adding a little of one or the other until the desired shade is obtained; if green is desired, mix the yellow and blue; a very small portion of red will subdue the brilliancy of green; thus again with purple, which is formed of red and blue, the addition of yellow destroys its purity; in the case of orange, blue will destroy or subdue its brilliancy.

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*Instructions for Painting Moss Rose.*—Geranium lake and white, mixed, is used for painting the bud or blossom; for painting the darker shades in the flower, use madder lake; the moss is painted with emerald-green, mixing in a little white or yellow to get the lighter shades—to get brown shades, use raw sienna and raw umber. In painting the leaves, brush in with emerald-green mixed with white or yellow, to get the different shades. This must be done before the outlines are painted, as all outlines are put on with the pen, representing the stitch. If you should put the outlines on first, when you are filling in with the brush you would be liable to touch the stitches, and your work would not be as neat when finished. In painting the outline, to get the bright shade, use emerald-green with a little chrome-yellow or white; you can get the dark shade by using raw sienna; if the dark shade is too dark, work in a little Naples-yellow. The same colors are used for the stem as for the moss. The stem, moss-rose, and bud are all pen-work, also veins and outlines of leaf; the filling in of the leaf is done with the brush.

*Instructions for Painting Easter Lily.*—Beginning with the bud, to get the pink shade, use a little geranium lake with the white; in painting the open blossom first brush in a little white, then the outlines are put on in white with the pen, to imitate the stitch. The veins are also put on in white; the pistil, projecting from the centre of the flower, is put on with the pen, using emerald-green at the top of the pistil; the light shade is made by mixing chrome-yellow and white; the stamens are put on in the form of the stitch with the pen, using chrome-yellow. In painting the leaves, brush in chrome-yellow and white, mixed. In brushing in the darker shades, use emerald-green mixed with raw sienna; let the brighter shades dry a little before the darker shades are brushed in—while you are working on some other part of the design it will dry enough. The outline of the leaf is put on with the pen, rep-

representing the stitch; for the bright shades use emerald-green mixed with chrome-yellow or white; for the dark shades use emerald-green mixed with raw sienna. The veins are put on with the pen, representing the stitch; for the light colored ones, use Naples-yellow and white; for the dark ones use raw sienna and emerald-green. The stem is put on with the pen (imitating the stem or outline stitch as nearly as possible), using raw umber and emerald-green.

*Instructions for Wild Rose.*—The corolla is finished first. Its colors are first brushed in with white and geranium lake, mixed so as to make a very bright shade. After you get this shade brushed in go over it with the pen, making the stitch, using the same color used for brushing in. The centre is made with the pen in stitch form, using for the bright shade emerald-green and chrome-yellow, and for the darker shade, emerald-green and raw umber. The stamens are made with the pen, in stitch form, using chrome-yellow; for darker shades of leaves use raw umber; for the light shades, emerald-green mixed with a little chrome-yellow or white; for the dark bud use emerald-green, and chrome-yellow for the lighter shades on the bud; for dark shade on bud, use umber. If you are painting on dark material, use the paints given for the light shade on the entire bud. The buds are made with the pen, representing the stitch. Between the stitches scratch in with a sharp tooth-pick, or with the back of the pen, a little paint of the same shade as the bud. The stems are made with the pen, in stem-stitch form, using raw sienna and emerald-green.

*Instructions for Painting Wegelia.*—The corolla is finished first. By using geranium lake and white, mixed, you can produce the proper shade. The centre is finished with the pen, representing the stitch. The buds are finished in the same way by using the same colors. In finishing the leaves, first brush in a little Naples yellow and white, mixed; in making outline of leaves use the pen, making the outline in form of stitch. You

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can get the proper shade, by using emerald-green mixed with Naples-yellow and a little white; for the light brown shades use raw sienna and Naples-yellow; the dark brown shades are made by mixing raw sienna and emerald-green. The veins are made with the pen in stitch form; the stems are brushed in first with Naples-yellow; then go over them with the pen, making the stitch, and using raw sienna.

*Instructions for Painting Poppy.*—The corolla is finished first by brushing in vermilion red. After this is dried, brush a little madder lake near the lower part of the flower, outside and inside. The outline is put on with the pen in the form of a stitch; the outline and centre of flower are all that are put on with the pen; between the outline is brush work. To get the light shades for the outline, use vermilion red, and for the dark, mix a little madder lake. The stems are put on with the pen by using white, put on lightly with the edge of the pen. For the centre of the flower below the stems, use emerald-green; the leaves are brushed in with emerald-green mixed with white or Naples-yellow.

*Instructions for Painting Daisy.*—The corolla is finished first. You can get the proper shade by using pure white. It is put on with the pen, representing the stitch; the centre of the daisy is finished with chrome-yellow and raw sienna for the dark shades; the centre is also finished with the pen, to imitate the knot stitch. In painting the leaves, to get the light shades, use emerald-green and chrome-yellow; for the dark shades use raw sienna. The leaves are painted to represent the stitch. The stem is finished with same colors and in the same manner as the leaves.

*Instructions for Golden Rod.*—The flower is finished first. You can get the light shade of yellow by using chrome-yellow; for the dark shades that are put in here and there, use chrome-yellow and raw sienna, mixed, also Naples-yellow and raw sienna, mixed. The entire flower is finished with the pen,

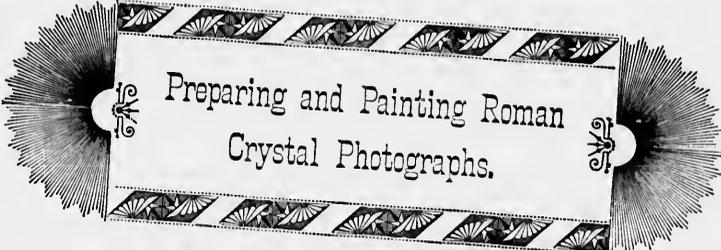
making the stitches irregular, but in such a manner that they will run toward the stems. For the light shades on stems, use emerald-green. It would be well to take your pen and put a stitch on here and there among the flowers, close to the stem, with emerald-green.

*Instructions for Wheat.*—The tops are finished first. You can get the proper shade by using Naples-yellow and white, mixed. The tops are made with the pen, used in a different manner than you would use it for most all other flowers. You must first get quite a large quantity of paint on the pen, clean the edges on the edge of the knife in the usual way, then, instead of beginning the stitch with the edge of the pen on the material, place the pen squarely on the material, with the hollow side underneath; then press on the pen until it opens so that it will leave paint on both sides of the pen and a trifle in the middle; a stitch in this way forms a grain. The small delicate fibre that projects from the wheat tops is made by the pen with same color as the wheat. The leaves are first brushed in with Naples-yellow and white, mixed; the outlines of leaves and stems are put on with the pen, using same color as used for the wheat; in order to get a green shade for lower leaves, mix a little emerald-green with white and yellow, mixed. The outlines and stems and veins are put on with pen in stitch form, using same colors as for brushing in the leaves.



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Preparing and Painting Roman  
Crystal Photographs.

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To Put the Photograph Upon the Glass.

**F**IRST cut the photograph the exact size of the glass, then soak it a few minutes only in cold water, and place it between the folds of a handkerchief to remove the surplus water. Then lay it *face up* upon a piece of rubbing paper, cut a little larger than the glass. Now with the fingers rub on thoroughly, and all over the face of the picture, thick starch paste made as follows: Put in a one-half pint tin cup a few lumps of starch, about as much as you can hold on a teaspoon, and pour on cold water enough to merely cover it well. Then stir it thoroughly and place the cup over a strong lamp blaze or gas jet. Keep stirring it slowly until it begins to thicken, then stir much faster until it is cooked and free from lumps when it should be semi-transparent or of a slight gummy appearance. If it looks very white or milky, you have not put in enough water or have not cooked it enough. If very clear, thin or watery, there is too much water. If you don't get it right, throw it away and try making it over again.

A thin paste works the *easiest*, and may do very well for some photos which have not been mounted, but for those which have been taken from the card, and especially if they have been much handled or are greasy, this paste must be just right and a

great deal depends upon having it so. The paste usually works best cold.

After rubbing the paste well upon the picture, rub it also upon the inside of the glass. Now lay the glass down upon the picture and pick up the picture, paper and glass altogether, and with the fingers loosely press the picture against the glass in the *centre* only. Now take the rubbing tool in the right hand and let the end or flat part press smoothly and firmly against the back of the rubbing paper, and with a slow rubbing motion rub out all the paste from the middle or face of the picture first, gradually working it out towards the edges. Be sure to rub out all the air bubbles or glistening places, and to rub the entire picture firmly into contact with the glass, but do not rub it very hard. While rubbing, always hold the picture at an angle towards the light, so as to get a reflection on the glass which will show you where there are any glistening places. The paper of the photo should not be allowed to get too dry, but kept slightly moist by occasionally dampening it with a sponge if necessary. Don't get it too wet either, or you may tear it. Change the rubbing paper for a clean piece occasionally if paste gets upon the back of it.

The thicker the paste the more trouble you will have to work it all out smooth and the more glistening places you are likely to leave in, but the more certain it will be to hold well to the glass and to prevent glistening from coming in after it is dry; while thin, paste works out easier, but it is more likely that glistening would come in afterwards or that it would not stay well to the glass. However, try and get used to working the paste thick. After it is on nicely, let it dry for an hour or two, or if you notice that many glistening places are coming in it as it dries, or if it is on imperfectly, soak it in water a while and then carefully pull the picture from the glass and try pasting and putting it on over again.

*Grinding the Photo.*—After thoroughly dry, then begin to grind the paper or picture upon the back with a small piece of

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emery cloth cut about one inch square. Rub it briskly over the paper with the ends of the fingers or holding one corner of the cloth between the thumb and middle finger, with the end of the forefinger pressing upon the cloth. Rub it in a circular motion mostly, and keep rubbing over every part of the picture until you have nearly ground off all the *paper* itself, or until it begins to get very thin, and to have a slightly scratchy appearance. When it begins to get very thin, you must use caution not to grind through. Sometimes, and for grinding upon small thick places while other parts appear thin enough, you let the end of the forefinger *nail* press upon the *corner* of the piece of cloth and then grind or scratch slightly into the paper by carefully rubbing back and forth over the thickest places until you have the entire picture as even as possible.

The grinding is the hardest part of the work, but with a very little practice and a few times trying, any one can quickly learn to do it successfully. If you grind a small hole through, or small pieces of the paper flake off, don't let this discourage you, but keep on grinding the thicker places and avoid the thin, so that there are no places left too thick and none too thin if you can avoid it. Thin places and holes will have to be touched up afterwards in the coloring, and it is more difficult to do this and to paint the picture nicely than when you have the picture well ground. A great deal depends upon the kind of paper as to how it will grind, also upon how well you have put it upon the glass. If your paste was too thin or if you had left bunches of paste in the picture, it will grind more difficult, or if there is paste left on the back of the paper.

*Clearing the Photo.*—When thoroughly ground, now heat the glass quite hot over a stove, lamp or gas jet. Then with a small piece of paraffine candle rub over the back of the picture until it has melted over every part. Rub it very thoroughly with the candle, and then, while it is still hot, rub it well with a cloth also. If this cloth is well saturated with paraffine from the rubbing of sundry pictures, it will work better, and the same

cloth can be used over and over again for this. Always keep the glass hot enough to keep the paraffine melted while you are rubbing it.

Now let it cool a little, and before the paraffine has become entirely hard, take a clean, dry cloth and rub off all the surplus paraffine until it is quite clear of it; still, it don't want to be rubbed too hard or too dry while it is too hot, or the cloth will absorb too much of the paraffine from the picture, so that when it cools small white spots are apt to appear. When cool, examine it carefully by looking through it and also by laying it *down* upon something *black*. If it is not perfectly clear, or if there are white spots or traces of a white scummy appearance, you must heat again to melt the paraffine, and then with the *emery cloth* grind it briskly over these thick places or spots and try to grind or scratch into them somewhat. The emery cloth will not take hold of the paper so much or be as apt to grind through while the paraffine is upon it, as when it was dry, so don't be too afraid of grinding through. You should usually keep it hot while grinding it, although it can also be ground while the paraffine is cold, but it will not take hold so quickly. Still, whether hot or cold, if you grind it too much, you might flake off some of the paper or grind it clear through. You will have to keep rubbing and grinding it in this way (either while it is hot or cold) until you think you have gotten every place thin enough. If you grind it cold, you must always heat it again afterwards. Then let it cool, and examine as before.

If there are some opaque looking places or spots, the only thing to do is to keep grinding and heating it and, at the same time, rubbing on a little more paraffine occasionally. Some pictures and some paper are quite troublesome to get clear perfectly, but you must keep to work upon it until you have it so, or you can not color it as well.

*Notes.*—There are various methods of making the picture transparent, and in a much easier way without the trouble of grinding it at all. These methods are by applying oils, bal-

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sams and varnishes to the paper, which readily penetrate it. Wax or paraffine will not penetrate the paper sufficiently to make a brilliant picture of this kind *without grinding*. Many have used or taught *those* methods, and sometimes quite pretty pictures have been so made, but the trouble was, the oils or varnishes, etc., would soon dry or thicken, and the picture would become spotted or turn yellow.

A method which has been frequently taught, consists in using castor oil which makes the paper beautifully clear, but soon after it was painted it would begin to fade or spot. Nothing can keep the oil or any other *liquid* preparation in the paper without its drying. *This* method is very easy to do, and there is much less danger of injuring the picture, and consequently many might at first get a prettier result than by the grinding method, but they should remember that no matter how fine their pictures look at first, they will not last. It is, therefore, much better, with a little practice, to get used to the grinding and to be able to make a picture which can be recommended to last. When pictures are properly ground and painted, the results also are much finer than by other methods.

Besides, the grinding and paraffine method is the only way known to-day by which these pictures (or any transparent paper photo, to be colored from the back) can be made lasting.

Paraffine preserves the transparency and picture, because it is a chemically, unchangeable substance, while oils and liquids are not.

Paraffine heated over 110 degrees melts, but ordinary heat or cold will not affect it. Pictures made transparent in this way can be put aside for any length of time, and they will bear handling, dust, &c. If they become scratched, or if rubbed too hard with anything damp, or if water, chemicals, etc., get upon them, it does not effect the paraffine, but may soften the film or paper under it, and so dull the transparency, but this can be remedied by heating and applying a little more paraffine.

*After* it is once painted and sealed, nothing is ever likely to

get at the back of the picture, and it will not change or lose its brilliancy.

Before painting the picture, and after the paraffine is cold, it should be rubbed perfectly smooth with a dry, clean and rather coarse cloth, and well polished. Rub off all the remaining paraffine possible in this way. You cannot rub into the picture, or rub off too much paraffine when it is cold, unless your cloth is damp or so coarse as to scratch into it.

#### Painting the Second Glass.

*Flesh Color.*—Place a second glass at back of the prepared picture and fasten the two glasses together temporarily, with two or three small slips of paper with some paste or gum rubbed upon them. Now paint on the back of the glass as follows: First take the oil tube colors, unscrew their caps and press out a very small quantity of each upon a glass or plate. Of the white you would need much the larger portion. Now take a small quantity of the white upon a penknife and put it in a clear place on the plate. Then take the smallest possible quantity of the vermilion upon the point of a knife (a speck not even as large as the head of a pin), and with the knife mix it thoroughly with the white. It merely wants enough of the vermilion to tint the white a delicate pinkish shade, but not red. Next take a little Naples yellow in the same manner and mix it with the white. This will give it a warmer or slightly yellowish shade, more like real flesh. Take a little of the paint upon the largest brush and apply some to the back of the glass behind the face. Now turn the picture over and lay it *face upwards* upon a piece of black card board. You can now see the depth of color as it appears showing through the picture. If it don't suit you, wipe it off and try to make a different shade. If it looks too pink, put in a little more white, or if too pale, put in a little more red (*vermilion*) or yellow. You can compare the tint by the color of your own hands. The color should never be

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very deep, and avoid getting it very red. Children or persons of delicate complexion will want the faintest trace of either red or yellow. Ruddy or flushed complexions, more red. Some might not want any red, but a little yellow. Dark complexion or elderly persons may want a fair quantity of red, but enough yellow also to take off the reddish tint and to give more warm or yellowish complexion to the flesh. A great deal will depend on the tone and strength of the photo you are painting. The main thing is, to get the flesh color as near right as it appears to you possible, and when this is decided upon, then spread the color on very thick and opaque, all over the flesh, face, hands, etc. Go over the eyes, mouth, etc., the same as if they were not there, and even moustaches, whiskers, etc., if they are not very large, can be gone all over with the flesh color. Sometimes even the hair also in the same way. It don't make much difference how these look *at first*, as they are *afterwards* to be painted and tinted on the *back of the picture*. Flesh color should always *lap over* a little, all around next to the hair, background, etc. When it is applied, it should, if anything, look a little weaker and paler than it is really to appear in the finished picture (but never darker or more red), as it should be remembered that the tints of the cheeks, lips, etc., are to be put on afterwards on the back of the picture, and this will deepen the complexion so much more.

*Hair, Whiskers, Etc.*—If you did not go over the hair, etc., with the flesh color as suggested (and especially when the hair or whiskers are large and well defined in the picture), you can make a hair color on purpose to put back of these, but it is not necessary to give them the actual tint desired by this painting on the glass, as they are invariably to be also painted on the back of the picture afterwards.

In nearly all cases where the hair is *dark* in the photo, and whether it is to be light brown, dark brown or black, the best color to use back of these is *light brown*. Take white with a

little vandyke brown mixed with it, and which color, when applied, will merely make a little more contrast between the flesh and hair, than if you had gone over both with the flesh color.

You should avoid using *dark shades* upon the back glass or it will make too much contrast and show strong lines between the colors. When hair is white or very gray in the photo, you can put clear white back of it. If yellow or golden, use Naples yellow, and, if desired, with some white in it to lighten or a little brown to darken.

*Collors, Bosoms, White Dresses, Etc.*—Put clear white back of these, and put it on thick. Small collars and bosoms are usually to be painted also on the back of the picture with white and to be put on opaque, so that it does not make much difference whether it is white or flesh color, or any light shade that is under them. But for white dresses, *large* bosoms and collars they should have plenty of white back of them, as it may not always be best to paint them also on the back of the picture (especially with *opaque* white); they frequently look softer without. On the back glass the white should always be put on to *lap over* a trifle at the edges next to all dark shades of the picture.

Painting on the back glass, and especially for the flesh, whites and lightest parts of the picture, the object is to give these a softness or ivory-like appearance, which it is impossible to get if painted entirely on the back of the picture.

But in the darker parts of the picture this softness is not required, and it makes little difference whether painted on the back glass or not, when they are to be painted with opaque colors on the back of the picture.

*Background.*—The color used for these should almost invariably be of a light shade. Take White with the smallest trace of Blue, and perhaps a little Black also added to take off the decided blue tint. This color generally answers the best

whether the background is light, dark or medium in the photo. It may not appear as if it was dark enough when applied, or as if there were not enough contrast, so that the entire picture looks as if it was weak after the entire background color has been put on, but by using a light color you avoid so much showing over of decided lines between the colors, and by afterwards working up the tint of the background on the back of the picture you get a better effect usually, than by using stronger colors on the back of the glass.

*Coats, Dresses, &c.*—These are to be painted on the back of the picture afterwards, and most invariably with opaque colors. Therefore it does not make much difference what colors are back of them on glass, or whether you put any upon or not.

It is frequently about as well to carry the same color you have been using upon the background all over the coats, etc., and all other parts of the picture you had not before painted. However, if a person, for the sake of practice merely, wishes to try to get them as near as possible to the shade wanted by this painting on the glass, it will do no harm to do so. They can use White mixed with Black back of black coats, etc. Vermillion for red or maroon dresses, Prussian Blue and White to make a bright blue. Blue and Yellow mixed together will make green. Any color can be tried to suit fancy.

Jewelry, flowers, etc., or any of the small parts of the picture are not painted on the back glass, but always afterwards on the back of the picture.

When the back glass is fully painted, separate the two glasses and proceed to painting the picture on the back.

*Note.*—The foregoing description has been made carefully, to enable anyone without previous knowledge of painting or colors to get well used to them. If the colors on the back of the glass do not appear to suit, they can easily wipe them off with a cloth, and try them over again as often as they wish, thus getting some practice before beginning to paint on the back of the picture itself.

*Painting on the Back of Pictures.*

*Cheeks, Lips, etc.*—First take the smallest possible quantity of Scarlet Lake upon the brush (which must previously and always before using other colors have been well cleaned by dipping it in naphtha several times and wiping it dry upon a cloth.) Now rub the color lightly upon the middle of the roundest part of the cheeks.

Then with the finger soften it and rub it almost entirely off again, leaving merely a sufficient trace of the color to give it a tint. Do not rub it all over the face, but try to remove surplus carefully, and each time after touching it with the finger wipe the finger clean upon a cloth. The tips of the ears and also the chin can be slightly tinted in the same way. *Crimson Lake* is usually better to tint the *lips* with.

*Face, Etc.*—If some of the shadows or lines of the face appear weak they can sometimes be strengthened by rubbing on very lightly and softly a little Vandike Brown, or mix a trifle Scarlet Lake with it. For tinting the cheeks and various parts of the face, sometimes use Scarlet Lake mixed with a little Naples Yellow.

Seldom try to use any white upon the face, as this is opaque and destroys the softness, but the colors used must be put on thin and very transparent, and softened down by blending with the finger or with a clean brush. If you don't get it to suit you wipe it all off with a dry cloth and try it again. Your fingers should not be damp when you try to soften or to rub color off, and don't rub too hard. If the color does not come off readily touch a little *Megilp* upon it and wipe off dry with a cloth.

Sometimes and before trying to tint the cheeks, lips, etc., at all, it is well to go all over the face with a mixture of Scarlet Lake and Naples Yellow, *very thin*. It must be neither very red or very yellow. Have a little upon the brush and do not spread it on, but with a circular brushing motion, merely work on the least possible trace of color. Now rub it almost all off again with

the finger to soften it, and so that the picture still appears quite transparent. Enough of the color will remain to give it a flesh tint and warmth to the entire face, and when worked in this way the picture has frequently more force and brilliancy. If the color is on too thick you lose the softness, and it will look coarse and chalky.

After the entire flesh has been given a tint in this manner, the cheeks, lips, etc., can *then* be tinted more, by working on or through the other color, a little clear Scarlet Lake or Crimson Lake as before described.

When, in putting on the flesh tints, a little of it has rubbed over into the background, etc., remove it carefully with a cloth from those parts.

Tinting the face nicely is, of course, the hardest part of all the painting, and until one has tried it a little it is sometimes about as well to finish the other parts of the picture *first*, and to do the face afterwards, as they may then be better able to form their opinion as to the depth of the face color, and its general appearance.

*Backgrounds.*—If these are light in the photo, it is best to keep them light in the picture, and not try to darken too much.

Usually the best tint is the same as you used on the back glass; that is White with a little Blue and Black mixed with it. It should be medium light with a little more of the blue and black in proportion to the white.

A little Crimson Lake also added often improves it and gives it a warmer tint.

Be careful to put the color on smoothly and evenly, not very thick or very thin, (but still thicker than you work color on the face) all over the background, by gradually working it on with a circling motion of the brush, not spreading it on, but try to get it smooth, so that it does not look scratchy and coarse. You can soften it by touching it with the finger or another brush. If there are any thin *places*, the paper having flaked off

in grinding, where these occur the color will show through much lighter. Therefore for these places make a little darker color by adding more Blue and Black, and try to work it through and to touch up these places as well as you can by working on the color directly back of these places, and to make it match with the rest of the ground. If it goes over too far, it will show a darker ring around these places, or if the color is too dark, it will look bad. If you don't get it right, wipe it off with the finger over quite a large space, work your background color again all over it, and try to touch it up again better.

*Imperfections.*—For white spots, etc., which are frequently found in photos, especially in backgrounds, (and the same system will apply when they are in other parts of the picture), do not carry the color which you are using upon the background, etc., over these spots, but work the color all around the spots first and then take a dark color, say clear Vandyke Brown, or Black, but sometimes with a trace of Blue or White in it, according to the tint you have upon that part of the picture, and now touch these spots carefully and exactly upon the spot, with the dark color.

This must be done with a fine brush and put on very light, or it will look coarse. When white spots are in the face, they can usually be touched in a similar manner with Brown or add a little Scarlet Lake to it.

*Note.*—Care must be taken in working on the background color next to the edge of the face and other light parts of the picture.

When a background is dark in the picture, you might use a darker color, but of a similar tint, that is, with more Blue and Black in proportion to the White, and work it on in a similar manner, neither very thick or very thin, but try to soften it and keep it smooth.

*Collars, Bosoms, White Dresses, Etc.*—Put on clear White, and if collars are small, it can usually be put on thick and

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opaque. Large collars, bosoms, etc., although the white may be put on thick if desired, they usually look better and softer and less chalky if you work on a thin coating of White and rather transparent, the same as working colors on the face. Certain parts can then be sometimes touched up with lines of White, put on more opaque over the first coating, and with very good effect, especially for lace work, etc., where it is desired to make it look more fleecy, or to bring out the design stronger.

*Coats, Dresses, Etc.*—For these, if they are black, use Black and White mixed, but don't have it very dark or it will look coarse and flat.

Put it on thick and opaque, so that no brush marks will show through. Colored dresses, etc., do in the same way and with colors to suit. Even if the dress is light in the photo and wanted to be light blue, pink or green, etc., put the colors on opaque.

For ties, ribbons, etc., the same system applies

*Jewelry.*—For gold use Naples Yellow; for coral, Chinese Vermillion, etc.

*Flowers, Leaves, Etc.*—Color to suit fancy. For green, mix Blue and Yellow together, and add white to lighten, or more Blue and sometimes Brown or Black to darken

*Note.*—If you have not already painted the face, it is well to do so now, before the hair, whiskers, etc., are done, and in the same way as before described.

*Hair, Whiskers, Etc.*—When these are dark in the photo, and are desired to be dark brown, use Brown almost clear, but sometimes put in a little White with it to make it more opaque.

Don't put it on very thick; if it looks too brownish or too reddish, add a little Black. For black hair use Black and White mixed. Never use clear Black. For auburn hair clear Brown will frequently answer. If not, add a little Scarlet Lake or other red to the Brown. Light brown, golden and flaxen hair

will usually take light in the photo. For the first, use Brown and White mixed white; Naples Yellow for golden hair, or add a little White to it to lighten, or Brown or Black to darken a trifle if desired; for flaxen hair use White with a little Black added. For white hair put on clear White rather thin, and then you can, if wanted, touch up some of the hairs with fine lines of White, put on more opaque to make them more decided. For gray hair, work over it first with white and then touch some of the hairs which appear darker in the photo, with lines of Black and White mixed.

*Eye brows.* — Touch these carefully to darken some, using usually clear Brown put on very thin, or Brown and White mixed, or Black and White. Put it on with a small brush. If you get it too heavy, soften it by touching it with the finger

*Eyes.* — If the person had blue eyes, they will probably take light in the photo. Use for these Blue and White mixed, sometimes adding a little Black. Put it on slightly and carefully with the finest brush, and exactly upon the eye itself, not too thick or too thin. For dark brown eyes use Brown and White mixed rather dark. Clear Brown will sometimes answer if put on thin. For grayish eyes use Black and White mixed light. Black eyes the same, but darker. Touch the whites of the eyes in each corner with a small speck of White.

*Note.* — The picture may now be considered finished. If desired to remove the paint for the purpose of doing it over again or improving it, it can be wiped off with a dry cloth while it is still fresh. If any trace of it does not come off readily, rub on a little Megilp with the finger and then wipe it all off with a cloth. When paint has become dry and hard, any part of it can be removed without interfering with the colors, by scraping it carefully with a fine pointed stick, then rub on a little Megilp and wipe it off again. Use no naphtha, turpentine, etc., to clean paint from pictures unless you wish to take all the color off. Megilp usually answers the purpose, and if that does

not take all the trace of the paint off, naphtha will, but after using naphtha, the picture would always have to be heated and paraffined again, after which it will be just as good as before, and ready for re-painting. Thus colors can always be put on and taken off a picture, over and over, until you get it painted to suit you, and without much danger of injury to picture with ordinary care.

*Binding the Picture.*—Cut a piece of card board the size of the glass, then with a few small pieces of gummed paper, fasten the card board and both glasses all together. Then with some longer strips of paper about one half inch wide bind the whole picture together at the edges. When the paper is dry it can be trimmed around the edges evenly on the top of the glass with a penknife.

*To Remove Photographs from Card.*—The Photo if mounted should be soaked in cold water usually, for an hour or two, or over night will do no harm. Then lay the picture down upon a flat glass or plate and press it down in the center with the fingers. Now with the right hand fingers bend backwards one corner of the card board so that it will gradually separate from the photo. If it is inclined to stick, soak it more, and perhaps this time in hot water a few minutes, but best to avoid hot water if possible, as it sometimes blisters the photo. Never try to pull on the photo to separate it from the card, but always push or roll backwards the card itself. Sometimes the card will stick no matter how much it has been soaked. In this case try to peel off or rub away all the card board possible, then put the picture again in hot water a few minutes and then with the back edge of a knife, or with the rubbing tool gradually push the rest of the card back and try to separate all remaining portions of it from the picture. Next use a sponge dipped in hot water and rub it gently over the back of the photo, to remove any trace of paste or gum. Be careful and not rub off any of the paper from the picture.

## List of Materials.

The following is a list of materials, with the usual costs of the same :

|                                                                         |      |                                                 |     |
|-------------------------------------------------------------------------|------|-------------------------------------------------|-----|
| Convex Glass, card size, oval, per doz.,                                | .35  | Oil Tube Colors (Winsor & Newton's) as follows: |     |
| “ “ “ square, “                                                         | .50  | Cremnitz White, per tube,                       | .10 |
| “ Cabinet, “ oval “                                                     | 1.20 | Ivory Black, “                                  | .10 |
| Emery Cloth, No. 4 (Baeder & Anderson's) at hardware stores, per sheet, | .06  | Prusslan Blue, “                                | .10 |
| Common Wrapping Paper, for rubbing,                                     |      | Chinese Vermillion, “                           | .20 |
| Common Lump Starch,                                                     |      | Naples Yellow,                                  | .10 |
| Best Paraffine Candles, at grocers,                                     |      | Vandyke Brown,                                  | .10 |
| Brushes, No. 1 Round Red Sable,                                         | .15  | Crimson Lake,                                   | .10 |
| “ No. 6 “ “ “                                                           | .20  | Scarlet Lake,                                   | .10 |
|                                                                         |      | Megilp,                                         | .10 |

*Rubbing Tool.*—This can be easily made from an ordinary tooth brush handle, by merely having the end filed down *flat*.

*Note.*—The glasses can be obtained by sending to Codman & Co., 34 Bromfield street, Boston ; Anthony & Co., 191 Broadway, New York ; Janentsky & Co., 1123 Chestnut street, Philadelphia, and also of nearly all dealers in artists' material, as well as the colors, brushes, etc. Druggists and Stationers also frequently keep them, but if they do not have them, they can usually get them readily for any one.



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## Floral Painting in Oil and Water Colors.



IN this chapter we shall confine ourselves to the easiest form of painting, namely, flowers,—on canvas, silk, satin, white velvet, ebonized wood, glass panels, etc., and give such directions with each as shall enable the student to make satisfactory progress. It will be necessary to study carefully the hints on “Enlargement of Designs,” sketching, etc. We hope by this plan to encourage quick execution, thereby inspiring confidence, and soon fit the student for the more advanced stages of the art. Each flower will be found to present a particular lesson in itself, and a little practice will familiarize the eye with the proper balance of color, its contrasts and harmony, and as no very difficult effect is attempted, we think that to paint them all will be a matter of very “plain sailing,” indeed. An amateur should not, however, be ambitious to undertake the most difficult design at first. Let the advancement be easy. Take for the first effort a simple subject, requiring only two or three tints. A design of white roses would be a desirable study to begin with. Patience and continued practice will teach the pupil how to meet the difficulties in the use of brushes, colors, etc.

The materials necessary for an outfit in oil and water color painting are, one sheet of tracing paper and one sheet of trans-

fer paper. The colors necessary in oil painting are silver white, yellow ochre, medium cadmium, light cadmium, orange cadmium, light red, vermillon, madder lake, rose madder, cobalt, permanent blue, Antwerp blue, raw umber, bone-brown, burnt sienna, ivory black, terre verte, light zinöber green. The same colors are used in water colors, except that lamp-black is substituted for ivory black, and Vandyke brown for bone-brown. Sepia is added to the list, and permanent blue and madder lake omitted, being unnecessary, as cobalt and rose madder are sufficient for any purpose. With these colors and their combinations any subject may be painted — figures, landscapes or flowers.

For oil painting you will need about six graduated flat bristle brushes from an eighth of an inch across in width to an inch. Two French or English sables, flat, pointed, Nos. 6 and 10. A linden palette, a steel palette knife, a bottle of Devoe's poppy oil, and a bottle of refined turpentine. For water color three brushes are required — one large, round, dark-haired brush, one medium-sized, round, pointed, camel's hair, and one very small, finely pointed, camel's hair for small details and fine drawing. A piece of clean blotting paper should be added to take out the high lights.

#### *How to Set the Colors on a Palette for Oil Painting.*

The following order of arranging colors is taken from Carolus Duran, one of the greatest painters in France, and especially renowned for his pure and brilliant coloring. The idea is to have only the colors which are absolutely necessary, and these so arranged, like the scale on the piano, that one learns to know the place of each one almost without looking. First, select a large oval palette of cedar or any such wood of medium tone, and see that it is not varnished. The palette, which is ordinarily about ten or twelve inches across its narrowest part, should be well oiled before using. Any oil will do for this, though linseed or poppy oil is generally selected. Put the oil

thickly over the palette, and let it dry into the wood. Then begin to place the colors in the following order, beginning at the right hand and setting the colors along the upper outside edge of the palette about three-quarters of an inch from the extreme outside, and about an inch and a quarter apart. Begin with silver white, next place yellow ochre, then light red, vermilion, madder lake, cobalt, Antwerp blue, raw umber, burnt sienna, bone-brown and ivory black. This is the regular palette. Now, if cadmium is needed, place it a little below or above the yellow ochre. If Indian red is needed, place it above or below light red. Permanent blue, zinöber green and terre verte are placed in the same relation to cobalt and Antwerp blue.

When beginning to paint, a so-called secondary palette is arranged about an inch underneath the first row of colors in the following manner: First, a little yellow ochre is taken with a knife and placed under the yellow ochre. With this a little white is loosely mixed, so as to form a gamut of shades from solid yellow down to clear white. Next, light red is mixed with white in the same way, leaving about an inch and a half between each plat of color. After this comes vermilion and white, madder lake and white, raw umber and white, cobalt and white, and ivory black with white. It is not necessary to mix all the colors with white in this way, but only those which in their combinations enter into all ordinary painting. This manner of arranging the palette has many advantages. One is, that the colors are kept clean, because the general body of colors are taken from this secondary palette, while the pure colors ranged along the outside edge are only resorted to when pure touches are needed, and so escape being mixed with white and other colors. In cleaning the palette after the day's work, only the secondary palette, that is to say, those mixed with white, need be cleaned off, as the pure colors which are set along the outside edges will keep fresh enough to use from day to day — though, of course, whatever fresh color is needed may be added to each pile. Artists rarely clean off their palettes

entirely each day as it takes too much labor to set all the colors freshly each time one wishes to paint.

The next step in order is:

#### Preparing the Canvas.

There are several methods of preparing canvas for oil painting, though most artists prefer to use that which is prepared by experienced manufacturers, it being safer for pictures of importance, as that prepared without experience and skill is apt to crack and peel off. One method, and that most commonly used, is the following: Get a piece of good, strong, evenly woven, unbleached linen the width desired. This is stretched out its full width, and secured on each edge by strong fine cord or stout linen thread, to a framework which will keep it perfectly flat and tight. A preparation of thin liquid glue is now made, which is spread all over the linen, as evenly as possible, without lumps or irregularities. When this is quite dry, a coating of paint is spread over the surface. This paint is very *fat* and may be mixed with either oil or turpentine, according to the texture desired. This is called the first priming, and the canvas is thus preferred by many artists without further preparation, as it shows the threads of the linen through, thus forming an agreeable surface to paint upon. The very smooth canvas that is used is the result of still another coat of the paint reduced thin by mixing with oil. The canvas with a very rough surface preferred by many artists, and called the "toothed" canvas, is made by mixing the final coat of paint with turpentine, and putting it on thickly with a movement of the brush which, when half dry, pulls the paint up instead of smoothly spreading it into an even surface. It will thus be seen that to prepare canvas properly is a matter requiring skill and experience, as well as more time than most artists are willing to bestow upon such work.

## How to Enlarge Landscapes, Floral Designs, Pictures, Etc.

When you wish to enlarge any of the colored landscape designs, embroidery designs, etc., to a large scale, proceed as follows: Make an *exact* drawing or sketch of the picture to be enlarged first (the transfer paper process can often be used for this purpose), and then by the process of "squaring off" enlarge it to any desired size in the same proportions. The *modus operandi* is as follows: Let us take for example the simple outline sketch of the peasant girl (see illustration), and suppose it to be drawn on a canvas or paper 6x12 inches. It is desired to place the same figure in the same proportions on a canvas 12x24 inches, or exactly twice as large as the sketch. Begin by dividing the long sides of the sketch into twelve parts of one inch each, and the



The Peasant Girl.

short sides into six. Join the points with straight lines making squares as in the engraving.

If the sketch is a black and white drawing, charcoal will be the best to draw the lines with, if it is an oil sketch a light colored pastel, for it may be rubbed off afterwards without injury to the sketch. Now take the 12 x 24 canvas and divide the long sides into twelve parts of two inches each, and the short sides into six of the same length. Draw straight lines as before, dividing the canvas into squares. It is now only necessary to locate on the large canvas the different lines of the drawing, making them occupy the same position on the large squares as they do on the smaller ones in the sketch. Mark, for instance, the point at the top of the turban, which in the illustration is seen to be in the square 2 in the long side, and 3 in the short one; B, the elbow, is in the square, under 2 in the top line, and 4 in the side line; C, the outer corner of the jacket over the shoulder, is placed in the square under 5 in the top line, and 4 in the side line; D and E, the outer edges of the bottom of the skirt, and F, the point of the toe, are located in the same manner, and as many other points may be placed as are needed. It is a simple matter to draw the figure now exactly as it is in the sketch, and occupying exactly the same position on the canvas. Notice that each line cuts in a certain direction on each square in the sketch, and make it cut in the same direction on the corresponding square on the canvas, and the problem is solved. It is possible in this way to enlarge a small sketch to any size. A sketch 6 x 10 inches may be enlarged to 3 x 5 feet by squaring off the sketch in inches and making the divisions on the large canvas six inches each. Having a sketch 4 x 6½ inches and desiring to paint it four times as large, the shorter side of the canvas will be, of course, sixteen inches, and the length of the long side twenty-six inches.

*Note.*—In many cases the lines may be drawn and the squares made directly on the original engraving, and the picture enlarged from this, care being taken that the lines be not too heavy, as this will have a tendency to mar the beauty of the original.

Having by this or other means got your design accurately upon the material, you are now ready to begin painting.

### Instructions for Painting Roses.

*White Roses.*—To paint white roses of a warm, creamy tint, first lay in a general tone of very light, warm gray, into which are painted the shadows and the high lights, keeping the tones simple. For the general tone, use silver white, yellow ochre, a little ivory black and a mere touch of cobalt and madder lake. For the shadows, use a little ivory black with light red-yellow ochre, cobalt and madder lake. In the rich, dark accents use burnt sienna. The yellow tones at the base of the leaf where it joins the calyx are painted with medium cadmium, white, a little ivory black and madder lake. For the yellow centres, use light cadmium, yellow ochre, white, ivory black, raw umber and burnt sienna. The calyx and stems are painted with Schönfeldt's light zinöber green, qualified by white, ivory black, cadmium and vermilion for the lighter and yellow greens, substituting madder lake for vermilion in the cooler tones and burnt sienna in the shadows.

*Crimson and Yellow Roses.*—To paint the crimson in oil colors, use madder lake, white, a little cobalt and ivory black for the general tones, adding in the shadows burnt sienna, and in the lights add



A Rose Design.

vermilion. In the reflected lights use Indian red, white, yellow ochre, cobalt, raw umber with a touch of black. For yellow roses, use for the general tone yellow ochre, cadmium, white, raw umber and a little ivory black. In the half tints add a little cobalt and light red, and in the shadows add burnt sienna. The lights are made with yellow ochre, white, and a touch of black, or if the rose be a very pale yellow, substitute light cadmium for yellow ochre. The leaves are painted with Antwerp blue, white, ivory black, cadmium and light red. In the cooler tones, substitute madder lake for light red, and in the very light, warm greens, use vermilion. In the shadows, add sienna and raw umber.

*Wild Roses.*—In painting this flower in oil colors it will be a great saving of time to transfer it to the ground on which you wish to paint by the use of transfer paper placed under the design (dark side under), then go over the outlines with a tracing point, and you have the design accurately traced on the glass. A very charming effect would be produced by painting the roses upon a panel of clear glass for a single screen and framing it in an open-work frame of light wood suggesting a trellis. This is something quite new, and when well done, the effect is charming. Before beginning to paint, outline the design carefully with spirits of turpentine and burnt sienna, using a flat, pointed sable brush, No. 8. If painting on canvas or any material where a background is necessary, put this in while the burnt sienna is drying. A very good background would be a light, silvery gray tone with shadows thrown by the stems, leaves and flowers. Paint the general tone of the background with white, yellow ochre, permanent blue, ivory black and light red. In the shadows, use raw umber, burnt sienna, a little madder lake and permanent blue with ivory black. For the pink wild roses, use for a general tone vermilion, white, madder lake, a little ivory black and yellow ochre. Paint the shadows with light red, raw umber, madder lake, ivory black, and a little permanent blue. In the deep accents add burnt

sienna. Put on the high lights last, and touch them in crisply, using plenty of color. Paint these with vermillion, white, madder lake and a very little ivory black, to give quality. In the deeper red tones toward the centre of the flowers, use madder lake, white, a very little light cadmium and a little ivory black. Paint the yellow stamens with light cadmium, white, yellow ochre, a little light red and ivory black. For the faint green filaments use permanent blue, white, cadmium, a little madder lake and ivory black. To paint the leaves use Antwerp blue, white, light cadmium, light red, and ivory black for the general tone. In the cooler greens use madder lake, with more black, instead of light red; and in the warmer and brighter tones use vermillion in place of any other red. Paint the shadows with raw umber, Antwerp blue, cadmium, burnt sienna, ivory black and whatever white is needed. The dark brownish-red color at the edge of some of the leaves and in the thorns is painted with madder lake, raw umber and white, shaded with a little burnt sienna and ivory black. The red seed vessels are very pretty touches of color, having one or two faded leaves still clinging to them. Paint these vessels with vermillion, madder lake, yellow ochre, white, raw umber and a little ivory black, adding burnt sienna in the shadows, and using a little permanent blue, light red and ivory black, with white, for the soft gray half tints.

*Directions for Treatment in Oil Painting and Water Color,  
of Red and Yellow Tulips.*

This vigorous and brilliant study of tulips may be used in a number of ways. As a single panel screen, it would be very effective painted on clear glass with oil or water colors, or on any opaque material if preferred. It is well worth doing simply on canvas as a picture to hang upon the wall. If water colors are preferred, a strong effect may be produced by using transparent washes upon Whatman's double elephant paper. To paint the tulips in oil, first sketch the outlines in with charcoal,

and then go over this with turpentine and burnt sienna. Now begin to lay in the background, if you are going to have any; and if painted on canvas, a light, warm gray tone will look well. Paint this tone of light gray with yellow ochre, white, ivory black, permanent blue and burnt sienna. Lay in the flowers and leaves in broad simple masses at first, putting in the details and finish afterwards. For the deep red tulips, use madder lake and vermilion, qualified by a little raw umber and ivory black. Add whatever white is needed, and in the cooler, darker tones omit the vermilion and raw umber, using madder lake, ivory black, a little burnt sienna and a touch of permanent blue. In the high lights, use madder lake, vermilion, white and a little ivory black. Put in the yellow centres with yellow ochre, cadmium, white and a little ivory black, adding burnt sienna and raw umber in shading. Paint the dark stamens with bone-brown, permanent blue and burnt sienna.

The yellow flowers are painted with light cadmium, yellow ochre, white and ivory black for the general tones. In the shadows add raw umber and burnt sienna. For the highest lights use cadmium, white, and a very little ivory black. Make the rich, reddish touches with raw umber, madder lake, and white. In painting the tulips of mixed red and yellow use the colors already given. Paint the silvery-green leaves with permanent blue, cadmium, ivory black, madder lake, and white in the general tones, adding burnt sienna and raw umber in the shadows. In the touches of brighter, warmer green, substitute Antwerp blue for permanent blue, and vermilion for madder lake. In the warm, reddish-brown shadows, use burnt sienna in place of madder lake. In the cooler shadows use madder lake and ivory black with permanent blue, yellow ochre and white. Use large and medium flat bristle brushes for laying in, and paint with plenty of color. After the first painting, use smaller brushes, and for the fine accents and careful drawing, etc., use flat-pointed English or French sables, Nos. 6 and 9. A little of Devos's poppy oil is used for a medium. For painting on glass

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use turpentine. In painting with water-colors use the same colors given for oil, with the following exceptions: For transparent washes on Whatman's double elephant paper, omit white; though if painting on glass, silk, satin, etc., Chinese white is to be mixed with all the colors, and is used at first as an under-painting before the colors are laid on. In water-colors, substitute cobalt for permanent blue; rose madder for madder lake; Vandyke brown for bone-brown; lampblack for ivory black, and add sepia in shading the leaves and flowers.

Lay in the washes in simple flat masses at first, deepening them by successive washes, and take care that one wash shall be entirely dry before proceeding with the next. The high lights are taken out by wetting the spot with a brush dipped in clean water, and then removing the color with a piece of clean blotting paper. Any tone may be lightened in this way, and blotting paper will be found very useful. If a simple gray background is used, shadows may be painted behind the flowers, falling a little below and to the right. This throws the flowers out from the background, and is very effective. Be careful to give the shadows the form of the stems, flowers and leaves from which they are cast, and see that they are consistently carried out. Paint these shadows with burnt sienna, ivory black, permanent blue, yellow ochre and white. In painting on canvas in oils, after the first painting has dried, and before beginning to work again, the paint should be "oiled out" with clean poppy oil. Use Decoline with the oil colors in painting on satin instead of oil. The oiling out is done with a flat, clean bristle brush, with which the oil is well rubbed in. Afterwards, a clean rag should be passed all over the surface, to remove the superfluous oil drops. All paint, more or less, will become dull when dry. For this reason, artists use the temporary varnish known as "Soehnées' French Retouching Varnish," which brings out the colors without giving too much glaze.

Hints to Beginners on Mixing Several Colors to  
Produce One Tone.

When a number of colors are named, it is intended that all of these colors should be used together in their proper proportions and mixed on the palette to produce certain tones. For instance, to paint a green leaf, we say, use Antwerp blue, light cadmium, white, vermilion and ivory black for the general tone. We mean to mix them in the following way: Take first some Antwerp blue and bring it down to the center of the palette. Now add enough white to make the colors brighter and of a certain consistency. Next add a little light cadmium. These colors, when mixed, will give a crude, brilliant green, but we feel at once that something more is wanted to give this green the proper quality. So we take from the top row of the palette a little ivory black, bring it down and add it to the crude green. This tones it down very much, but we feel that something more is needed before the color will represent the green of the leaf. We therefore add some vermilion, and find that we have just the right quality of color before us. In using colors this way, do not mix them too much with the knife, for if you mix them into one flat, even mass of color, they lose freshness. Mix them only enough to make them combine a little, and then take up the tone thus made with a flat, bristle brush, thus transferring the color to the canvas, where it can be manipulated with the brush. The student must learn for himself how to combine the colors in their proper proportions, and it will soon become a matter of instinct, almost, to feel just what color is needed to counteract too much of something else, or to produce a certain effect of tone.

Simple Studies of Fancies.

To paint this design in oil colors, begin with the background, having previously laid in the general form of the flowers and leaves with burnt sienna and turpentine. For the background,

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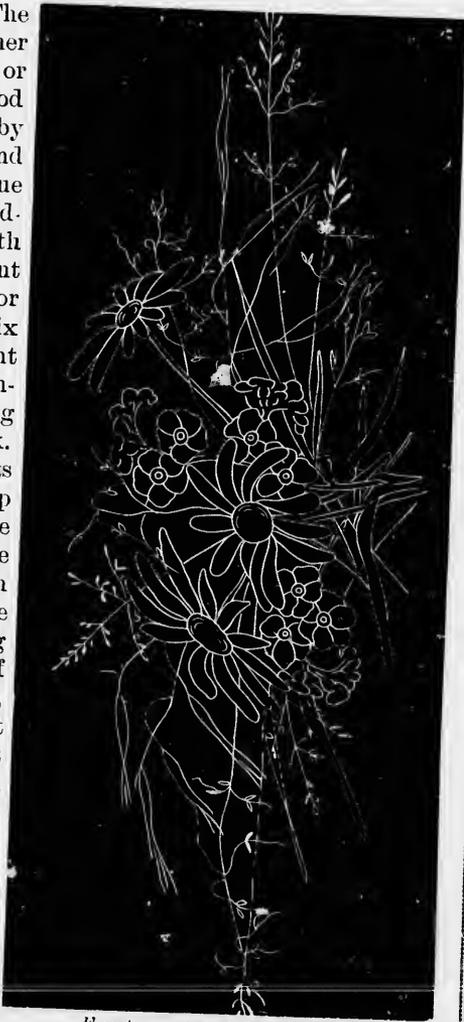
use white, yellow ochre, raw umber, ivory black, light red and permanent blue. Put this on thickly, using plenty of paint, and mix a little turpentine with it as a medium for the first painting. While this is drying, paint the green leaves and grasses, so that the little sprays of grass and buds, as well as the edges of the leaves, may be softened with the background while the paint is still fresh. This will prevent a hard outline; and at any time when painting where the flowers or any parts come directly in contact with the background, if the paint should be dry, repaint a small portion so that the paint in both flowers and background may be fresh enough to soften into each other. For the leaves, use Antwerp blue, white, light cadmium, light red and ivory black for the general tones. In the shadows, use raw umber, Antwerp blue, burnt sienna, white, ivory black and cadmium. The cooler greens are painted with permanent blue instead of Antwerp blue; and madder lake in place of light red. In the very warm, bright greens substitute vermilion for madder lake, and use Antwerp blue as at first. The grasses which are lighter and yellower than the leaves, are painted with light zinöber green and white, qualified by light cadmium, vermilion and ivory black. For the shadows, use light zinöber green and white, with a little Antwerp blue, burnt sienna, raw umber, cadmium and ivory black. For the yellow pansy, with red centre, use light cadmium, yellow ochre, white, and a very little ivory black for the general tone. In the deeper, warmer touches add a little light red. The red centre is painted with madder lake, raw umber and cadmium, with enough ivory black to give quality. The high lights are painted with light cadmium, white, and a very little ivory black. In painting the yellow pansy, of which the back is seen, use the same colors given for the general tone in the yellow flower just described. For the petals in shadow, use cadmium, raw umber, yellow ochre, a little light red and ivory black. The green calyx is painted with the colors given for the grass. The upper pansy of reddish-brown and brownish-yellow combined, is painted

in the following manner: For the deep reddish-brown petals, use madder lake, bone-brown, a little ivory black and a little white. Paint the brownish-yellow petals with yellow ochre, raw umber, burnt sienna, white, and a very little ivory black. The light line of yellow, running around the edge of the petal, is made with light cadmium, yellow ochre and white, with a very little ivory black added. To paint the rich, deep purple pansy in the centre, use madder lake, permanent blue or cobalt, and ivory black, with a little white where needed. The lines around the edges and the light reddish-purple touches in the centre, are made with madder lake, vermilion, white, and a very little permanent blue and ivory black. The bright yellow spot in the centre is painted with light cadmium, yellow ochre, madder lake, white and raw umber, adding ivory black and burnt sienna in the accents of shadow. For the reddish-purple flower at the right lower side, use burnt sienna, madder lake, permanent blue, white and ivory black. In the lighter reddish tones add vermilion and raw umber. The yellow touches are made with medium cadmium, yellow ochre, a little madder lake and a little ivory black. The light purple or violet colored pansy is painted with cobalt, madder lake, white, a little ivory black for the general tone, adding raw umber and burnt sienna in the shadows. The yellow touches are made with light cadmium, white, raw umber, ivory black, adding a little light red in the shadows. For the reddish touches in the centre use light cadmium, white, yellow ochre, light red, raw umber and ivory black. In the deeper touches substitute burnt sienna for light red, and in the very lightest tones omit both.

*Treatment in Oil and Water Colors of Daisies and  
Forget-me-nots.*

This graceful design is well adapted for toilet bottles, pin cushions, etc., and may be painted, either in oil or water colors, on silk, satin or bolting cloth, or may be partly embroidered

and partly painted. The foundation may be either cream color, pale pink, or crimson. A very good result is obtained by painting the daisies and forget-me-nots in opaque water color and embroidering the grasses with etching silk. To paint this design upon silk or satin with oil colors, mix turpentine with the paint to keep the oil from running, and place blotting paper beneath the silk. The blue forget-me-nots are painted with Antwerp blue, white, a very little light cadmium, a little madder lake, and enough ivory black to qualify the crudeness without soiling the delicate shades of blue. In the shadows, use the same colors, but add raw umber and burnt sienna; omit the cadmium and use less white. Paint the yellow centres with light cadmium, white, yellow ochre, a little light red and ivory black. The white daisies are laid in with a general tone of delicate light gray. Upon



*Forget-me-not and Daisy Design.*

this the high lights are added and the accents of shadow. For the general tone, use white, yellow ochre, a little ivory black, cobalt, and madder lake. In the shadows, use the same colors, but add burnt sienna and use less white and yellow ochre. The high lights are painted with white, a little yellow ochre and a very little ivory black. Put the lights on with crisp touches and do not blend them. The yellow centres of the daisies are painted with light and orange cadmium, white, ivory black and a little madder lake. In the shadows add raw umber and burnt sienna. In some of the lighter touches use light cadmium, yellow ochre and white, with a very little ivory black. In painting the delicate grasses use Antwerp blue, white, light cadmium, vermilion and ivory black. In the shadows use the same colors, but adding burnt sienna and raw umber, while omitting vermilion and using less white. Use for the general painting very small, flat, bristle brushes and flat, pointed sables, No. 8. For the fine dark accents and small details use the flat, pointed sables, No. 5. The grasses should be very neatly painted, employing even a smaller brush, if necessary. To paint these designs in water color mix all the colors with Chinese white to give them the proper body. The same colors may be used as those named in the directions for painting in oil, with the following exceptions: For permanent blue in oil colors use cobalt in water color. For madder lake substitute rose madder in water color. For ivory black use lampblack in water color, and for bone-brown in oil colors substitute sepia. Do not use much water and paint with pointed camel's hair brushes. To paint this design on bolting cloth with oil colors, mix the colors with turpentine till they are quite thin. Paint with a piece of blotting paper or soft cloth beneath the bolting cloth. Use ordinary bristle brushes for the general work and draw the outlines with French sables, Nos. 7 and 9. The bolting cloth could be laid over pale blue silk or over yellow silk with charming effect.

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BLACKBERRY DESIGN FOR MIRROR FRAME.

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## Oil Colors for Design of Blackberries.

This graceful design may be painted on wood, plush or velvet. If on wood a background is desirable. The background should be painted first, entirely covering the wood, and allowed to dry before beginning the design. A very good background for this design would be a true amber-yellow, rather gray in quality, so painted as to imitate the effect of plush. To do this lay in the whole lower part in one flat tone of rich dark amber-like plush in shadow. At the upper part, beginning a little above the middle, the tone is very much lighter, but still flat. Then in the upper left-hand corner are painted some crisp touches of high light with soft gray half tints. The blackberries are rich black with warm shadows and gray high lights. Some of the berries are red, and one or two are red and green mixed, making an agreeable variety of color. The blossoms are white with greenish-yellow and light reddish-brown centres. The leaves are warm green and some are tipped with red. To paint the blackberries, use ivory-black, madder lake, cobalt, yellow ochre and burnt sienna and a little white for the local tone. In the deeper accents of shadow, use ivory black, burnt sienna and a little cobalt with madder lake. The high lights are painted with white, a little ivory black, cobalt and light red. Paint the red berries with light red, madder lake, vermilion, white, a little raw umber and ivory black. In the high lights use yellow ochre, vermilion, madder lake and a very little ivory black. In the shadows substitute burnt sienna for light red. A little light zinöber green with white vermilion and ivory black is used for the green touches in the berries. Paint the green leaves with Antwerp blue, white, light cadmium, vermilion and ivory black. In the shadows use the same colors, but add burnt sienna and raw umber, using less white and cadmium. In the red touches use madder lake, light red, raw umber, white, and a little ivory black. The white blossoms are laid in at first, with a general tone of delicate warm gray. Afterwards the high lights are put on with crisp touches, also the accents of

shadow are painted—use for the general tone, white, yellow ochre, a little ivory black, madder lake and cobalt. In the shadows use the same colors, adding burnt sienna and using less white. The stems are warm gray with rich brownish-gray shadows and cool gray high lights. Paint these with raw umber, ivory black, white, cobalt and light red. In the deeper touches use burnt sienna in place of light red. Paint the general tones with medium and small, flat bristle brushes. For the fine details and small branches use flat pointed sables, No. 3.

*How to Paint Dogwood Blossoms for Mirror Frame on Wood.*

The flowers are creamy white, with reddish-brown centres, and reddish-brown markings in the notches on the out-side edge of petals. The leaves are a medium shade of rather warm green. Paint the whole background, first laying in a general tone with madder lake, bone brown and a little ivory black. Use turpentine with the paint and cover the wood thickly. Now deepen this tone with ivory black, madder lake and a very little cobalt and paint sharp crisp lights at the top, using madder lake, then add white, vermilion and a little ivory black. Then add a soft gray half tone with madder lake, white, light red, a little cobalt and ivory black. Soften the edges of the half-tint into the shadow on one side and the light on the other. When finished this gives the effect of a frame covered with crimson plush. When dry sketch in the flowers with white chalk, and paint them in broadly and simply, using plenty of paint and mixing a little oil and siccatif de Courtray. Lay in the dogwood blossoms at first with general tone of very light gray, using white, yellow ochre, a little cobalt, ivory black and madder lake. Paint shadows with the same colors, adding burnt sienna in the deeper accents and using less white and yellow ochre. Paint the high lights last of all, using white, yellow ochre and a very little ivory black. For the centres use a raw umber, white, burnt sienna, madder lake, and a little ivory black. Paint the green leaves with Antwerp blue, white, light cadmium, vermilion and ivory black. See design on p. 157.

+++++  
Landscape Studies in Oil.  
+++++

BY MISS L. FULMER.



It is taken for granted that the reader has studied, and practiced on the floral studies of the preceding chapter, and has attained considerable proficiency in the knowledge of Light and Shade, the laying in of simple masses of color, the handling of the brush, and to have grasped some clear idea of the necessary "effect" and "composition" of a study. He will naturally, after such practice, desire to direct his attention to the more ambitious task of landscape painting. On account of its simplicity, we have selected as our first study the "Thames River."

*Sketching the Picture.*—Before beginning to sketch the picture, make a careful observation of its component parts, and discover the "leading lines." Now observe how the eye is carried into the picture by the river. The exact size of the original being marked off, begin by sketching in the water line of the right hand bank, commencing at the point where the water line seems to touch the little bush on the *left hand* side; now sketch in the water line of the left bank, and be particular that they are placed in the true position to the original. This will give the scale for the *bank* lines, which are next drawn in. The trees and the small boat in foreground will complete the leading outlines.

*Painting the Picture.*—In landscape painting the sky is always painted first. In this case it should be gone over with a light coat of blue, made by mixing white, a little Naples yellow, permanent blue, with a little black to give it a gray appearance. Use poppy oil for mixing. When dry give it another coat. As you carry the sky down towards the tops of the trees in the distance, reduce the shade with Naples yellow and white.

The proper shade for the clouds is obtained with white, Naples yellow, and a little light red, for the darker shades. The high lights are almost pure white, with very little Naples yellow. The light and dark shades of the clouds should be well blended, which is done by dragging the edges together with a dry brush, while painting. The trees in the distance are next painted; use purple lake, permanent blue, with a little white, for the dark shade. For the light shades, reduce with white. Use very little blue, and make the shades as dim as possible to represent the distance. Small bristle brushes (Nos. 1 and 2) are used in painting the trees. The river may now be painted. Paint the blue portion with a shade of blue similar to that of the sky, and when this is dry, paint in the light portion of the water, using white with a little Naples yellow for the light shades, and for the darker shades use a little zinöber green No. 2, with blue and white. For the gray tint to the left of the picture add a little bitumen with the dark shade. Now mix burnt sienna and bitumen for the heavy brown portions of the river banks, carrying the same tint over parts of the boat and small rocks near the boat. Reduce this shade by mixing in white and Naples yellow, and with this paint the shadows of the bank, and the left hand bank, using more white to produce the lighter shades nearer the source of the river, and also for the light portion on the boat. Blend the shades in the boat with a dry brush. The shore near the boat should be painted with light chrome green, with a little burnt sienna put on here and there. Now paint the light green banks on the left-hand side, using King's yellow with chrome green. Carry this shade over certain parts on the right hand bank, and shade with the darker greens. The dark shades near the trees will require a little terre verte and brown, and still farther back is seen a yet darker green with a tinge of blue in it: for this shade use zinöber green, with a little bitumen mixed for the very dark portion. The same shades are carried over parts of the right hand bank. Some parts will require a little more yellow. The large cluster of trees having a blue tint are

painted by mixing a little blue with the green. Reduce this shade with Naples yellow for the high lights. The foliage of the trees in the background is painted with chrome green of different numbers; for the lightest shades use a little Naples yellow, and apply here and there with a fine sable brush. The trees on the left hand side are painted in the same way, using chrome green Nos. 1, 2 and 3, and Naples yellow for trees of a light shade. For those that have a blue appearance use zinöber green. Paint the shadows reflected in the water with a shade similar to that of the trunk, reducing with white to a dimness as shown in the study.

*La Chale Rapids, Ottawa.*—In sketching this study, begin by drawing lightly, the water line at the base of the mountain. Next locate the points where the water breaks to form the falls, then the water line at the base of the falls, and the mountains. The leading lines being located, the rocks, trees, etc., are then sketched in. To paint the sky, mix new blue white, and a little black, using poppy oil for thinning. As you near the top of the mountain, on right hand side, reduce this shade with white and Naples yellow. When dry, give a second coating, this time laying in the clouds, using white, Naples yellow, light red, and a little black. For the lightest shades use white with very little yellow. By painting the dark portion of the clouds with a little light red and black a better effect is produced than by using so much yellow. Blend these colors well by twirling a dry blender round and round, working the edges well together. Now paint the mountain. Where the gray tint is seen at the extreme right hand side and extreme left hand side of the study, use the same blue as the sky, mixing a little more black and a little light red; when dry give a second coat. The blue portion of the mountain, seen above the trees in the distance, is painted in a shade similar to the sky. For the light pink tints mix a little vermilion with yellow and white. Where the yellow shows strongest, leave out the vermilion. For the darker pink shade, add a little black to the colors used for the

light pink, being careful to put the different tints in their proper places and correct shapes. Blend *only* the tints that run together. For the foliage at the base of the mountain use emerald green, with white for those in background, and for the heavier shades, use zinöber green No. 2 with the emerald green and white. This will answer much better than the blue tint shown in the study. In painting the small trunks of the distant trees, use a gray tone. Where the shadows are deepest, use a darker shade of gray. In painting the water at the base of the mountain, use new blue, white, black, and green. Several distinct shades are seen; mix the shades and then compare with that of the copy. Reduce the shades as you near the falls. For the falls, use white where the lights are strongest; for the gray tints, use black and white; for the blue tint, mix blue, white and a little black. Be sure and put the shades in their proper place and form, and you will have no difficulty. In the water below the falls there is more green; chrome green with blue shades will answer. After you have laid in the foundation, draw little white streaks through it, as shown in the study. To paint the rocks in the centre, use for the light gray shades, black and white, and in certain parts use a little zinöber green to represent moss. For the light brown shades use raw umber and white, making darker markings here and there, using burnt umber, and for the *very* dark shades use bitumen. The same paints are used for the rocks on the right and left. They will require no blending. The trees are painted last. For reddish-brown foliage, seen on some of the trees on the island and on the left hand shore, use Naples yellow, light red, brown ochre, and burnt umber for the dark shades. Those in the centre will need a little green. For the trunks use raw and burnt umber. For the light shades add a little white. On the shadow sides of the trees use a little black. Having the trunks and limbs neatly painted, proceed to coloring the brighter foliage of the remaining trees, using chrome green Nos. 1, 2 and 3, and for the lightest shade use Naples yellow, applied with a fine sable brush here and there.

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PART SECOND





By P. C. HEADLEY,

*Author of "History of the Two Americas."*



*Pre-Historic Races.*



AUTHENTIC American history dates back only about four centuries. Previous to that period, through an almost unlimited age, the existence of a vastly numerous and pre-historic race may be traced through the ruins of their cities, their wonderful caves, and subterranean habitations, in which skeletons of some of their ancient inhabitants, stone implements of warfare and husbandry, and pieces of pottery and earthen vessels of rare and peculiar workmanship and coloring, are found. In some of these more perfectly constructed mounds, tools of copper, brass, and silver, and vases of

pottery, ornaments, and precious stones, have been found. These ancient inhabitants also worked the copper mines of Lake Superior, and their old pits are still called the "ancient diggings." In one of these mines a mass of copper was found which weighed over forty tons, and which had been separated from the original vein by removing the earth and ore, and the surface made smooth by pounding. About this huge piece of copper were found the very tools those ancient miners had used—stone hammers, copper chisels and wedges, as if the workmen had departed, intending soon to return. Upon some of these deserted mines the largest forest trees are found growing, and upon a mound near Marietta, Ohio, were found trees which, at least, must have seen eight centuries. The most marvelous and peculiar of all the relics of these ancient inhabitants are found in the valleys of Arizona. Here almost every hill-top within a range of 10,000 square miles is covered with broken pottery, so perfectly glazed that its bright and varied coloring is well preserved. Here, also, are ruins of buildings four stories in height, and with walls two feet thick, reservoirs, irrigating canals, and fortifications, where multitudes of caves are cut in the solid rock, and closed by mason-work of stone and cement, which is well preserved. These caves are only accessible by means of ladders, and the larger ones are bastioned and loop-holed; and an entrance, large enough to admit one person only, was made at the top, which connected with a series of chambers that honey-combed the whole mountain, while their walls are still black with the smoke from the fires of their ancient dwellers. These subterranean caverns were evidently prepared with a vast amount of labor as asylums against a fierce and invading foe; and long and cruel must have been the warfare which forced them to forsake their villages and cultivated fields and make their homes in the rocky depths of the mountains. Where and how the last of this numerous and wonderful race were blotted out of existence,

leaving behind no tradition of its origin, will forever remain a mystery.

The ruins of Spanish cathedrals and towns which were in all their glory, when a few half-starved English refugees from oppression were struggling for existence on the shores of the Potomac River and Plymouth Bay, are still scattered over the wilds of New Mexico and Arizona, but their earliest records give no account of these wonderful ancient inhabitants. Neither did intelligent and semi-civilized Montezumas, nor the vast tribes of Indians subject to them, have any knowledge or dim tradition even, concerning these monuments of a long-forgotten age and people.

*The figures at the right hand refer to the pages in an extensive work entitled THE HISTORY OF TWO AMERICAS, where a detailed account will be found.*

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- arrives at the Canary Islands; September 6.—He left the Canaries, and, when out of sight of land his men become dejected and beg of him to return. He encourages them and restores confidence; October 1.—Not having discovered land his officers and crew threaten mutiny, but with great effort he quiets them; October 12.—Land discovered, when his men prostrate themselves at the feet of Columbus and beg his forgiveness. On landing he finds the shores lined with naked inhabitants. Columbus named this island San Salvador, and continued his voyage in search of gold; October 28.—He discovers Cuba and numerous other small islands, all of which are inhabited, and finds small quantities of gold; December 6.—Columbus sailed eastward; December 24.—One of his vessels is lost in a storm off the coast of Hayti. The natives assist him in landing and treat him with kindness. . . . 78, 89, 6-81
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1540. August 23.—Cartier arrived at the port of St. Croix upon his third voyage.
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- He remained there eight months before the ice broke up around his ship so that he could leave. Utterly forlorn, and apprehending the worst results, he prepared for them as best he could. He gave each of his men a certificate of

his services and a statement of wages due him, and divided the remaining provisions equally among the crew. During these preparations he was often affected to tears. The leader of the mutiny was a man named Henry Green, a protégé of Hudson, who owed all he had to the captain's bounty, and whose life he had saved. This man instigated a majority of the crew to aid him in seizing Hudson and his friends, and the son of Hudson, a mere boy; and thrusting them into a boat, they threw in some ammunition, a fowling-piece, an iron pot, and a bag of meal. They then cast off the rope, made sail, and left them to their fate. Nothing more was ever heard from them, and they must have all miserably perished in a few days, as it was too early for birds to be seen in that frozen region.

Green and his chief abettor were, a few days after, killed in a fight with some Indians, and another died from hunger, and the miserable remnant, enucleated to the last degree, reached England in September, where two of their number revealed what had been done. . . . . 31

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1618. Lord Delaware died on his passage to Virginia. . . . . 221

1619. June 19.—First Colonial Assembly in Virginia. . . . . 221

1620. The *Mayflower* anchored in Cape Cod harbor. The first white child born of English parentage in New England and named Peregrine White. . . . . 46

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#### GIRLS SOLD AS WIVES.

1621. Cargo of girls sent to the Virginia colony and sold as wives.  
Many of the first settlers who came to Virginia were adventurers, and single men, and came to these distant shores expecting to amass enough wealth in a few years to return to their native country and live at ease; but

1621. finding that if fortunes were made, they must be developed by cultivating the soil; therefore, in order to successfully establish themselves and build up homes they must procure the "home-keepers," and as there were none here, they must be "imported," and to pay the expense of their passage, they were sold.  
Ninety young and respectable women were brought over in the first company, and were quickly disposed of, and the enterprise proved so successful that a second company were ordered, and sixty more came over.  
The price of a wife was at first estimated at 120 pounds of tobacco, which sold for three shillings per pound, and afterward they brought 150 pounds. This was considered a very honorable transaction, and the wives were received with so much fondness, and were so comfortably established, that the proceeding added much happiness and dignity to the colony. . . . . 221  
May 12.—First marriage at Plymouth, Mass.  
The W. I. Company build New Amsterdam (New York) and found Albany . . . . . 300  
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1622. The Indian massacre at Jamestown; 347 of the colonists killed in open day by the savages. . . . . 222
1623. Maine and New Hampshire settled by the English. . . . . 260
1623. New Jersey settled by the Swedes and Dutch and Fort Nassau built on the Delaware River.  
First white child born of Dutch parentage at New Amsterdam.
1624. King James dissolved the Virginia Company, and assumed control of the colonies in Virginia.
1625. House of Representatives in Virginia discontinued by King James and a new form of government adopted.  
Death of King James.  
March.—Charles I, ascends the throne of England and appoints Sir George Yeardley over the colonies at the head of a council of 12 men.
- PURCHASE OF MANHATTAN ISLAND.
1626. York or Manhattan Island bought of the Indians.
1627. Partnership of American settlers and London merchants dissolved.
1629. Salem, Mass., settled by a colony of Puritans under John Endicott.  
Massachusetts charter surrendered by the settlers.  
First settlement in New Hampshire.  
Charlestown founded by the Massachusetts Bay colony. . . . . 244  
Sir John Harvey succeeds Gov. Yeardley over the Virginia colony . . . 224  
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Quebec taken by the English, who were led by the refugee French Calvinists.
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First General Court held at Boston.  
Fifteen hundred Puritans with a fleet of 17 ships, arrive at New England. . . . . 244
1631. The Puritans pass a law restricting all participation in public affairs and all citizenship to church members. . . . . 244

FIRST IRON WORKS.

1681. First iron works in the U. S. built at Lynn, Mass. Country north of Hudson Bay explored by Capt. James, an Englishman. First vessel built in the U. S. and called the *Blessing of the Bay*.
1632. June.—James I. granted a charter of land to Lord Baltimore, which, in honor of the Queen, he named Maryland. . . . . 277  
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1633. Maryland settled by a Roman Catholic colony under Lord Baltimore. . . . . 277  
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1634. Maryland settled by Leonard Calvert, Lord Baltimore. Roger Williams banished from Massachusetts. . . . . 245
1636. Hartford, Conn., settled. July 4.—Providence, R. I., founded by Roger Williams.
1637. Mrs. Anne Hutchinson banished from Massachusetts for contending for freedom of debate in religious meetings. A number of prominent ministers were among her followers. . . . . 248  
Harvard College founded.
1638. A fleet of 20 ships arrives in Massachusetts with 3,000 emigrants. . . . . 248  
Another massacre of the colonists of Jamestown, and 500 killed. . . . . 225  
April.—First settlement in Delaware by the Swedes.

FIRST PRINTING PRESS IN NORTH AMERICA.

1629. First printing press in North America set up at Cambridge, Mass., by Stephen Day. . . . . 244  
Censorship enforced by law in Maryland, and a grist mill erected. First public hospital founded in America at Quebec.
1640. Montreal founded. First powder mill in the United States erected. New England numbered 2,100 inhabitants. . . . . 250
- 1642-45. Indian war in Maryland.
- 1644-45. Rebellion in Maryland and war with the Indians in Virginia.

NEW ENGLAND "BLUE LAWS."

- 1644-46. "Blue Laws" passed among which are to be found these peculiar enactments:  
Blasphemy, idolatry, adultery, and witchcraft were punished by death, and for any crime committed on Sunday, the additional punishment of cutting off an ear was added. Kissing a woman on the street was punished by flogging, which punishment was actually inflicted about a century later upon an English sea-captain, who saluted his wife on a street in Boston, after a long separation. Intemperance and all immorality were punished with great rigor, and keepers of inns and public houses were required to be persons of approved character, and possessed of a competency, as they were held responsible for the conduct of their guests and the morality of their houses—a "blue law" which would be well for the country were it now in vogue.
1645. First trial and execution in New England, of four persons for the "crime of witchcraft." . . . . 271  
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1646. John Elliot preaches to the Indians in their own tongue.
1647. Massachusetts made the support of schools compulsory, and education universal and free.
1647. Stuyvesant arrives at New Amsterdam.
1651. Navigation act passed by England restricting the commerce of the colonies. . . . . 264
- The English Parliament attempts to subject the colonies of Virginia, but is defeated by the colonists. . . . . 226
- Thirty lashes were inflicted upon Obediah Holmes for preaching Baptist doctrines in Massachusetts. . . . . 255
1652. The first regular book-seller in America was Hezekiah Usher, of Boston.
- PERSECUTION OF THE QUAKERS.
1656. Quakers first arrive in Massachusetts. Their persecution by the Puritans. Religious intolerance was carried to such an extent by these misguided zealots that they actually tormented and put to death, by scores, the only Christian sect in America who advocated the doctrine of peace, and who denied the right of man to take life under any circumstances. . . . . 255
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1660. Quakers prohibited from emigrating to Virginia under severe penalties. A duty of 5 per cent. was levied by the English government upon all merchandise of import or export in the American colonies. . . . . 226
- Great English navigation act established. . . . . 227
1662. Three persons hung for witchcraft in Hartford, Conn.
1663. Remarkable earthquake lasting with short intervals for six months. The face of the country in some localities entirely changed.
- First settlement in North Carolina.
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- 1666-75. Marquette explored the Mississippi River.
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- A WOMAN EXECUTED FOR WITCHCRAFT.
1688. A woman executed in Boston for witchcraft, after a long and solemn investigation, and a book was published with a full account of the proceedings, to which was added a preface, by the Rev. Richard Baxter, in which he declared, "that any one who disbelieved the truthfulness of the account was a Sadducee.".....271
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1690. The colonies attack Quebec, under Phipps; reinforcements failing him, he retreats with a loss of 1,000 men.....269
- FIRST PAPER MONEY.
1690. First paper money issued in Massachusetts.
1691. Trial and execution of Lelsler and Milbourne, at New York, on a charge of treason.  
 New England contained 150,000 inhabitants.
1692. Massachusetts made a royal province, and Pennsylvania taken from William Penn.
- A PLAGUE ASCRIBED TO WITCHCRAFT.
- Witchcraft in Salem, and many people put to death. A strange and epidemical distemper, resembling epilepsy, appeared in Salem, which baffled the skill of the physicians, who, failing to account for it, or produce a cure, persuaded the poor victims to ascribe it to "Witchcraft." Impelled by a dark and cruel superstition, the "Christian people," declared these unfortunate creatures to be "possessed of the devil." Accordingly, solemn fasts and assemblies for extraordinary prayer were held by the clergy. Inflamed by a fanatical zeal, and inspired by a spirit which was a relic of the dark and barbarous ages they were just emerging from, these deluded yet truly conscientious and pious people, resorted to the most cruel punishments and death, to exterminate a plague which their solemn fasts and long-continued prayers and protestations had failed to cure.....271
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1694. Penn's rights in Pennsylvania restored.
1697. Close of King William's war.
1698. French colony arrive at the mouth of the Mississippi.
- CAPTAIN KIDD.
1699. Capt. Kidd, the pirate, apprehended at Boston.

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1700. Lead mines discovered by Le Suer, a French explorer, at Dubuque, Iowa.
1701. Detroit, Mich., founded by the French.
1703. Duty of £4 sterling laid on imported negroes in Massachusetts.  
An Indian war, instigated by the Spaniards, was prosecuted with great violence in South Carolina. But Gov. Moore speedily suppressed it, and the enemy surrendered and submitted to English rule. The colonies lost 800 men. Fourteen hundred Indians were colonized in Georgia.
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- French and Indian Massacre at Deerfield, Mass. They burned the village and killed 47 persons, taking 112 captive, among them many women and young children, who were compelled to march through dense forests and over deep snows to Canada, many perishing by the way.....646
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- MASSACRE IN NORTH CAROLINA.
1713. Indian massacre in North Carolina. One hundred and thirty-seven of the colonists killed at first attack. Assisted by South Carolina, the colonists make a general attack upon the Indians and defeat them with great slaughter, and drive them from the province.....299
1713. Close of Queen Anne's war.  
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1718. Impost duties laid by Massachusetts on English manufactures and English ships.
1720. Tea first introduced into New England.
1721. Inoculation for small-pox introduced into N. E.....405
1722. Paper money first used in Pennsylvania.
1725. First newspaper in New York (*N. Y. Gazette*) published by Wm. Bradford.
1732. Tobacco and corn made legal tender in Maryland.
- BIRTH OF WASHINGTON.
- Birth of Geo. Washington in Washington parish, Virginia.  
Carolina divided into North and South Carolina.....352
- FIRST MASONIC GRAND LODGE IN AMERICA.
1733. July 30.—First Grand Lodge of Freemasons on the American continent, constituted in New England, and called St. John's Grand Lodge, by Henry Price, a successful merchant of Boston, who received his appointment from Anthony, Lord Viscount Montague, Grand Master of England. Mr. Price is considered the father of Masonry in the United States.  
Freemason's lodge held at Boston.
1740. First stove (a cast-iron fireplace) invented by Dr. Franklin, upon which he refused to accept letters patent offered him by the Gov. of Pa., wishing to give the benefit of his discovery to the people.
1741. "General Magazine and Historical Chronicle" published by Franklin.  
July 18.—Vitus Behring, a celebrated Russian explorer, discovered Alaska.

1742. Faneuil Hall, built by Peter Faneuil.  
 1746. England and France determined to wage a war of extermination upon each other in their American colonies. . . . . 353  
 1751. Sugar-cane first cultivated in the United States by the Jesuits, on the banks of the Mississippi River, above New Orleans. The plants were brought from San Domingo.

WASHINGTON'S PERILOUS MISSION.

1753. George Washington, at the age of 21 years, was sent by Gov. Dinwiddie, of Virginia, to the French commander, on the banks of the Ohio, to confer in regard to a settlement of rights of territory. Unsuccessful in his mission, he returned on foot, a distance of over 500 miles, through a wild and dangerous country, with but one companion. The Indians followed him and attempted his life by shooting at him from an ambush. . . . . 354  
 1754. Tennessee first settled.  
 April 2.—Col. Frye was sent with a regiment of Virginia troops, aided by George Washington, who was second in command, to occupy the fort of the Allegheny and Monongahela rivers. Finding the French had already erected a fort, calling it "Du Quesne," they hastened to attack the French, surprising and defeating them. Col. Frye dying, Washington took command of the regiment, and, collecting his troops at the Great Meadows, he erected a stockade, calling it "Fort Necessity."  
 1755. April 14.—Gen. Braddock arrived from England in Virginia with a large force.  
 1756. May 19.—War declared with France by Great Britain.  
 1757. Fort William Henry taken by the French. The Indians fall upon the retreating garrison and massacre the sick and wounded. Fifteen hundred were killed or carried captive into the wilderness.  
 1758. The British forces under Gen. Abercrombie numbered 50,000 men—the largest army that had ever been marshaled in America.  
 Peace with the Indians was secured between the Ohio River and the lakes . . . . . 357  
 1759. George Washington elected to the Virginia House of Burgesses.  
 Sept. 13.—Battle before Quebec, on the Plains of Abraham. Gen. Wolfe commanding the American forces, surprised and attacked the French army, under Montcalm, at break of day. A desperate battle was fought, during which, Wolfe and Montcalm were slain. . . . . 358  
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 1760. Montreal capitulates, and the French surrender Canada. . . . . 359  
 1763. Feb. 10.—France surrenders all her possessions in North America, east of the Mississippi River, to Great Britain. . . . . 359  
 Canada ceded to England by France.  
 Feb. 10.—Peace concluded between the English and French at Paris. . . 488

CHIEF PONTIAC'S WAR.

A sagacious Ottawa Chief and a former ally of the French, secretly effected a confederation of several north-western tribes of Indians, for the purpose of expelling the English. Within two weeks he seized nearly all the English posts west of Oswego, but he was soon subdued and his war brought to an end.

## THE STAMP ACT.

1765. March 22.—Passage of the Stamp Act. This act required the people to purchase for specified sums, and upon all written documents, Government stamps must be placed. This act caused the most intense excitement and indignation in America.  
 First Medical College established in Philadelphia.  
 Oct. 7.—A congress of 27 delegates convenes at New York, and publishes a declaration of rights and rules against the Stamp Act.
1766. March 18.—Stamp Act repealed.  
 Methodism first introduced into America by Philip Embury and Capt. Webb, a British officer whom Wesley had ordained as a local preacher.
1767. June.—Tax laid on paper, glass, tea, and painters' colors.....363

## MASON AND DIXON'S LINE.

- Mason and Dixon's Line, run by surveyors of that name, sent out by the heirs of William Penn and Lord Baltimore, to define the boundaries of their possessions. It afterward became the acknowledged line between the free and slave States.
1768. The British Government stationed a military force in Boston. This was the beginning of hostilities, which rapidly engendered a spirit of resistance in the American colonies toward the mother country.....364
1769. Boston refused to receive goods from Great Britain, and sent them back.
1770. March 5.—Boston massacre. A mob composed of citizens of Boston attacks the British soldiers, and during the fray three citizens are killed and five wounded.....366

## THE NORTH CAROLINA REBELLION.

1771. Rebellion in North Carolina against the Government officers by the Regulators, a band of citizens who determined to resist the oppression of the English Government, and redress the people.  
 May 16.—The rebellion suppressed by Governor Tryon, and six Regulators hanged, which created intense hatred against the British Government.
1772. June 9.—A British man-of-war, the *Gaspe*, burned in Narraganset Bay, by a party of Americans from Providence.
1773. First Methodist Conference, consisting of ten preachers, all of foreign birth.

## DESTRUCTION OF TEA IN BOSTON HARBOR.

- Dec. 16.—The citizens of Boston throw a cargo of tea into the ocean, which was sent by Great Britain in open disregard and violation of the act of the colonies against receiving any merchandise subject to tariff.....368
1774. Shakers founded by Ann Lee, an English woman.  
 General Gage arrived in Boston harbor as commander of the royal forces of North America.....371  
 June 6.—Boston harbor was blockaded by the English, and all commerce interdicted.....368  
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 Gen. Gage was reinforced by two regiments of soldiers.....371

1774. The colonies proceed to enlist and drill a portion of the citizens as minute-men, and appoint committees of safety and supplies..... 373  
 Massachusetts calls for 12,000 men to be equipped for service..... 373  
 Great Britain prohibits the exportation of military stores, upon which the people of Rhode Island seized 40 pieces of cannon from the public battery, and proceed to arm the inhabitants.

FIRST CONTINENTAL CONGRESS.

Sept. 14.—Representatives from twelve colonies met in Philadelphia as a Continental Congress, to enact measures for the regulation of order, and for the protection of the people..... 373

They prepared an address to the King, declaring their loyalty, but demanding redress for their grievances..... 374

All the colonies, except New York, heartily concurred in the proceedings of the Continental Congress..... 375

Great Britain prohibited all the colonies, except New York, Delaware, and North Carolina, from fishing upon the coast of New Foundland, and from trading with the West Indies..... 372

These colonies spurned the favor, designed only to arouse a spirit of jealousy and disunion among the other colonies, and submitted to the restriction, much to their pecuniary disadvantage..... 372

Parliament passed an act to provide for the government of the province of Quebec.

1775. April 14.—First Society for the Abolition of Slavery was formed in Philadelphia, with Benjamin Franklin as President.

BATTLE OF LEXINGTON.

April 19.—Battle of Lexington was fought. This was the beginning of open hostilities. The British, with 800 soldiers under Lieut.-Col. Smith, marched from Boston on the night of the 18th to destroy the stores of the colonists at Concord..... 381

The people were warned of their intentions, and at 5 o'clock in the morning a small company of militia met at Lexington to resist them. Major Pitcairn, a British officer, rode up to them, ordering them to disperse, discharging his pistol at them, and ordering his soldiers to fire at the "rebels," 381

The militia dispersed, but the British soldiers continued to fire upon them, and they returned the fire; a few Americans were killed..... 381

The royal forces marched to Concord, destroyed the stores, and spiked the guns, throwing 500 pounds of balls into the wells. John Butterick, Major of a minute regiment, approached the British with a company, when they fired, killing Capt. Isaac Davis..... 381

A skirmish ensued, and the British began a hasty retreat toward Boston. But the people, aroused by this bold act of the British, had assembled in arms, and pursued them, attacking them from every direction..... 381

The British were reinforced at Lexington by a detachment of 900 soldiers under Lord Piercy. Having two pieces of cannon, the colonists were kept at a great distance, but they kept up a continual, but irregular fire, which did great execution..... 381

The British reached Bunker's Hill at nightfall, and the next morning crossed Charlestown Ferry and returned to Boston, with a loss of 93 men killed and taken prisoners, and 185 wounded..... 381

1775. The colonists had 50 killed and 28 wounded and missing. There were never more than 400 of the Americans engaged at one time, and no discipline was observed among them. . . . . 381
- The Congress of Massachusetts calls upon the N. E. colonies for an army of 30,000 men, Massachusetts pledging 13,600 of the number. . . . . 381
- May.—Gen. Gage is reinforced from Great Britain by a large body of soldiers under Gens. Howe, Burgoyne, and Clinton. . . . . 383
- May 19.—Ticonderoga and Crown Point were taken by Ethan Allen, aided by Col. Benedict Arnold and Col. Seth Warner. . . . . 388
- Col. Benedict Arnold captured a British sloop of war, and gained command of Lake Champlain. . . . . 388
- June 15.—George Washington was appointed commander-in-chief of the American army. . . . . 386

## BATTLE OF BUNKER HILL.

June 17.—Battle of Bunker's Hill fought. The American Commanders order 1,000 men to intrench on Bunker's Hill the night of the 16th. By mistake Breed's Hill was selected, and before morning a redoubt of eight rods square was thrown up. . . . . 383

The British began firing upon them at daylight from their vessels. At noon they landed a force of 3,000 men under Gen. Howe, and marched towards Breed's Hill. They kept up a constant artillery fire, under which the Americans continued work on the intrenchments. . . . . 383

The British set fire to Charlestown on their way, and the citizens of Boston and the surrounding country view the awful scene from every pinnacle and height, and the hill-tops are covered with thousands of anxious inhabitants. 383

The American forces engaged numbered but 1,500. They reserved their fire till the enemy was within a few rods, when they poured such a fierce and incessant volley upon them, that they were forced to retreat in disorder. . . . . 383

The British officers urged their soldiers at the point of the sword, and as they approached, the Americans again reserved fire, and when near, sent a second volley with such terrible effect, that they again retreated. . . . . 383

The British made a third attack, bringing their cannon to bear upon the intrenchments. The fire from the ships, batteries, and artillery were redoubled, and the intrenchments attacked upon three sides.

The Americans, finding their powder nearly expended, ordered a retreat. The soldiers reluctantly obeyed, fighting with their gunstocks until the enemy had taken possession of the trenches. . . . . 383

The British attempted to flank them, but were met with so much resistance that they desisted, and the Americans retreated to Prospect Hill, and proceeded to fortify themselves.

The British retired to Bunker's Hill and prepared for defense. Their loss in this battle amounted to 1,054, among whom 19 were commissioned officers, and 70 more wounded.

The loss on the American side was 139 killed, among them the brave Gen. Warren. The wounded and missing numbered 314. The Americans lost five pieces of cannon.

1775. July 12.—Gen. Washington took command of the American Army at Cambridge. The combined forces numbered but 14,000 men, unacquainted with military discipline, and destitute of everything which renders an army formidable. . . . . 383

1775. Gen. Montgomery, with a command of 1,000 men, attacks St. Johns, Canada, capturing the town and a large number of cannon, field pieces, and small arms, taking 600 prisoners. . . . . 388
- At the same time Col. Ethan Allen was taken prisoner near Montreal. He was loaded with irons, and sent in that condition to England. . . . . 388
- Col. Benedict Arnold, with 1,000 men, succeeded in reaching Quebec by traversing the wilderness of Northern Maine and Canada, and sailing down the St. Lawrence. . . . . 390
- A navy of 13 vessels ordered by Congress.
- Congress ordered the issuing of \$5,000,000, paper money.
- Benjamin Franklin appointed first Postmaster-General.
1776. Col. St. Clair marched, with a regiment of soldiers, from Pennsylvania to Canada during the extreme cold of a northern winter. . . . . 391
- March 4.—Washington fortifies and takes possession of Dorchester Heights.
- March 17.—The British evacuated Boston with 7,000 men, leaving their barracks standing, and stores to the amount of £30,000. . . . . 396
- June 7.—Richard Henry Lee made the first motion in Congress for declaring the colonies free. . . . . 407

## INDEPENDENCE DECLARED.

- July 4.—The American colonies openly declared their independence and freedom from British sovereignty. . . . . 407
- Eleven of the thirteen States establish a second branch of Legislature, calling it a Senate. . . . . 409
- The States unitedly agree in appointing for each a Governor, or head of each State. . . . . 409
- The States agreed in deriving their powers of government from the people; and in no case was the smallest title or power to be exercised from hereditary right. . . . . 409
- All hereditary privileges and religious establishments were declared abolished, thereby destroying the alliance between Church and State, and leveling all social distinctions. . . . . 409

## BATTLE OF LONG ISLAND.

- Aug 27.—The battle of Long Island was fought. . . . . 409
- The British forces were commanded by Gen. Clinton, assisted by Generals Grant and De Heister, the latter commanding a regiment of Hessians. . . . . 400
- Gen. Washington, aided by Gen. Sullivan and Lord Sterling, had command of the American troops. The first attack was made very early in the morning by the Hessians.
- The action was well supported on both sides for several hours, but the superior numbers and discipline of the English, together with a large force which cut off the rear of the Americans, intercepted a retreat. . . . . 401
- The Americans fled precipitately, and many of them were lost in the marshes. Their total loss amounted to over 1,000 men, including the wounded and prisoners; among the latter were 82 officers, including General Sullivan and Lord Sterling. . . . . 401
- Gen. Washington called a council of war, and it was determined to remove the army, the greater part of which he had placed upon Long Island, to the city of New York.
- The wind being favorable, and a dense fog coming on, the troops were all removed during the night, before the enemy was aware of the movement. . . . . 401

## UNSUCCESSFUL MISSION.

1776. Lord Howe sends General Sullivan on parole with a message to Congress, requesting an interview with a committee of their members as "private citizens," he not having authority to recognize the American Congress, but declared that he was, with his brother, Gen. Howe, empowered to compromise the dispute between them. . . . .401
- Congress declined to send a committee in a private capacity, but delegated Dr. Franklin, John Adams, and Edward Rutledge, to confer with Lord Howe in an official capacity. . . . .401
- They were received with great politeness, but Lord Howe failed to satisfy them that his authority extended further than the power to "grant pardons" upon submission to English rule. But the colonies were not suing for pardon, nor were they willing to relinquish their independence. . . . .401
- Oct. 28.—The battle of White Plains was fought.
- Congress convened in Baltimore, and resolved upon prosecuting the war, redoubling their energies. Volunteers began to flock to the army from all departments of life. . . . .403
1777. During this year Great Britain established the infamous prison-ship system. . . . .484
- Inhuman treatment of American prisoners by the British, both in England and America. . . . .484
- Jan. 3.—Battle of Princeton.
- July 8.—Battle of Fort Mifflin.

## ARRIVAL OF LAFAYETTE.

- July 31.—Lafayette arrived from France with troops and supplies, and offered his services to the colonies. . . . .414
- Aug. 16.—Battle of Bennington fought by Gen. Starke. . . . .429
- Sept. 11.—Battle of Brandywine under Gen. Washington. Gens. Lafayette and Woodford were wounded. . . . .412
- Sept. 19.—Battle of Stillwater. . . . .430
- " 26.—British troops under Sir Wm. Howe enter Philadelphia. . . .427
- Oct. 3 and 4.—Battle of Germantown. . . . .424
- " 6.—Capture of Forts Clinton and Montgomery, on the Hudson.
- " 7.—Battle of Saratoga. . . . .433
- " 17.—Surrender of Burgoyne to Maj. Gen. Gates at Saratoga. . . .433
- Dec. 8.—Washington and his army encamped on the Valley Forge. Destitute of sufficient clothing and food, the army suffered incredible hardships in the midst of a rigorous winter. . . . .426
1778. Jan. 5.—Capt. Cook explored the coast of Alaska.

## A YANKEE DEVICE.

"Battle of the Kegs." A contrivance of the Americans to destroy the British fleet. It was composed of a large number of little machines resembling kegs, containing explosive materials which they thought would set the British shipping on fire. The British were very much astonished at their appearance, and called out their forces to meet their new and mysterious enemy. It resulted in little harm to the fleet, but much consternation to the British, which caused great merriment to the Americans.

Bills were passed by the British Parliament granting all that the colonies had asked, but Congress rejected their offers.

1778. The British loss, up to this date, amounted to 20,000 men and 550 vessels.  
 Feb. 6.—France acknowledges the independence of the United States. .484  
 March 1.—\$1 in specie exchanged for \$1.75 in paper money; Sept. 1, for \$4; 1779, March 1, for \$10; Sept. 1, for \$18; 1780, March 18, for \$40; Dec. 1, for \$100; and 1781, May 1, for from \$200 to \$500.  
 June 28.—Battle of Monmouth.....440  
 July 3, 4.—Massacre at Wyoming. Over 1,000 Indians and Tories fell upon the inhabitants, and cruelly put to death the greater part of them, destroying everything in their savage fury.....455  
 June 16.—War between England and Spain.

JONES' NAVAL VICTORY.

Sept. 3.—Paul Jones' great naval victory off the coast of Yorkshire, England. This was the first American naval victory, and was the most sanguinary battle ever fought between two ships. Paul Jones was commander of a squadron of 5 ships. The *Bon Homme Richard*, his own ship—an old and clumsy vessel of 42 guns—engaged a British man-of-war, the *Serapis*, a new ship of 50 guns, commanded by Commodore Richard Pearson, and manned by 320 picked men. A desperate fight ensued. The *Serapis* swung around, by the force of the wind, square alongside of the *Bon Homme Richard*, and their yards being entangled, Jones lashed the two ships together. Then began the most fearful encounter recorded in naval history. The cannon of each ship touching, and amid their incessant war and crashing of falling masts, both vessels took fire. At this terrible crisis, the captain of the *Alliance*, one of Jones' squadron, began firing broadsides into the stern of the *Bon Homme Richard*, causing her to leak at a fearful rate. This dastardly and traitorous act was caused by personal hatred toward his superior commander. The fire increasing in the ship, Jones' officers endeavoured to persuade him to strike his colors, but he refused to yield, and soon the *Serapis* surrendered.

1779. Dec.—Coal first used in America by some Pennsylvania blacksmiths.  
 Death of Patrick Henry, aged 63.  
 1780. Feb. 6.—Congress calls for 35,000 men.....464

NOTABLE DARK DAY.

1780. May 19.—Notable dark day in New England. A dense and mysterious darkness covered the land, continuing from twelve to fifteen hours, filling all hearts with wonder, and multitudes with fear and consternation—the superstitious regarding it as the “day of doom,” and the learned and scientific wholly unprepared to account for the wonderful phenomenon. The darkness at midday was so dense that people were unable to read common print, or determine the time of day by clocks or watches, and at night, although at the full of the moon, the darkness was so impenetrably thick that traveling was impracticable without lights, and a sheet of white paper was equally invisible with the blackest velvet. The atmosphere seemed charged with a thick, oily, sulphurous vapor, and streams of water were covered with a thick scum, and paper dipped in it, and dried, appeared of a dark color, and felt as if it had been rubbed with oil.

TREASON OF ARNOLD.

Sept. 23.—Treason of Benedict Arnold, and arrest of Major André.  
 Maj.-General Benedict Arnold was an officer of high rank, and had been greatly admired for his bravery and uncomplaining fortitude and endurance during the first years of the war. He had been promoted from the office of Captain to that of Maj.-General, but, being of a proud and haughty nature,

1780. and exceedingly ambitious, his envy at seeing others rank above him, laid the foundation of his treachery and treason, which finally culminated in the betrayal of his country to its enemies. He had been stationed in Philadelphia while unfitted for service from wounds received in a battle near Stillwater, and while there his reckless extravagance caused his censure by Congress, and a trial by court-martial and reprimand from the Commander-in-chief of the army, which was approved by Congress. This disgrace was more than his proud, imperative nature could brook, and he immediately began plotting to betray his country. His correspondence with the British commander, Sir Henry Clinton, was conducted through Maj. André, an officer, of great distinction and merit, in the British army. He was captured upon his return from an interview with Arnold, within the American lines, by three privates, John Paulding, David Williams and Isaac Van Wert, who searched his person and discovered the treasonable documents in his boots. Arnold learned of the capture of André, and succeeded in making his escape but a short time before the arrival of Gen. Washington, who had appointed to breakfast with him. . . . . 467

## HANGING OF MAJOR ANDRÉ.

1780. Oct. 2.—Major André was hung after a trial by court-martial, upon the unquestioned evidence of his guilt. Great sympathy was manifested by both friends and enemies for Major André, but the inexorable demands and usage of war, and the safety of the country, necessitated his execution as a spy.
- Oct. 7.—Battle of King's Mountain. . . . . 462
- Nov. 20.—Battle of Blackstock. . . . . 462
- Dec. 2.—Greene takes command of the Southern army. . . . . 473
- Dec. 20.—War between England and Holland. . . . . 469
- Dec. 30.—National Thanksgiving. . . . . 482
1781. Jan. 1.—Revolt of Pennsylvania troops at Morristown. . . . . 470
- Bank of North America established at Philadelphia.
- Expedition of the British into Virginia under Benedict Arnold. . . . . 472
- Jan. 17.—Battle of the Cowpens. . . . . 473
- “ 19.—Cornwallis joined by Leslie at Charleston. . . . . 474
- Feb. 2.—Battle of McGowan's Ford. . . . . 474
- “ 16.—Battle of Guilford's Court-house. . . . . 473
- Jan. and Feb.—Remarkable retreat of Gen. Greene through South Carolina. . . . . 474
- April 22.—Surrender of Fort Watson to Gens. Marion and Lee. . . . . 476
- “ 25.—Battle of Hobkirk's Hill. . . . . 476
- May 9.—Surrender of Pensacola.
- “ 10.—Camden evacuated. . . . . 476
- “ 12.—Fort Schuyler (Utica) destroyed by fire.
- “ 12.—Fort Mott taken . . . . . 476
- “ 15.—British abandon Nelson's Ferry. . . . . 477
- June 6.—Augusta, Ga., capitulates. . . . . 477
- “ 18-19.—Siege of Ninety-Six, S. C.
- July 6.—Battle of Green Spring.
- Aug. 3.—Arrival of the French fleet under De Grasse. . . . . 476

1781. Aug. 14.—American and French allied armies march from the Hudson, near New York, to Virginia. Cornwallis hemmed in at Yorktown.....481  
 Sept. 6.—Burning of New London by Benedict Arnold.....482  
 Massacre at Fort Griswold, Conn.  
 Sept. 8.—Battle of Eutaw Springs; a splendid victory under General Greene.....477  
 Oct. 6.—Bombardment of Yorktown.....481  
 “ 19.—Surrender of Cornwallis at Yorktown. Gen. Lincoln appointed by Washington to receive his sword.....481  
 Oct. 24.—Indian battle at Johnstown.  
 National thanksgiving proclaimed.

FIRST STEAMBOAT.

1782. First boat propelled by steam was placed upon the Potomac River, by James Rumsey, a Bohemian, which was seen and certified to by Washington.  
 Feb. 6.—Resolutions passed in the House of Commons in favor of peace.  
 April 17.—Holland acknowledges the independence of the United States, and a treaty of amity and commerce secured through negotiations of John Adams.....488

LAST BATTLE OF THE REVOLUTION.

- June 24.—Last battle of the Revolutionary War—a skirmish near Savannah, and some slight skirmishes in South Carolina, in one of which the gallant young Col. John Laurens lost his life.  
 July 11.—Savannah, Ga., evacuated by the British.  
 Aug.—War closed between the United States and Great Britain.  
 Nov. 18.—Preliminaries of peace between the United States and Great Britain signed at Paris.....489  
 Dec. 14.—Charleston, S. C., evacuated by the British.

LOSS DURING THE REVOLUTION.

1783. Seventy thousand men estimated to have been lost during the Revolutionary War.  
 Oliver Evans introduced the first improved grain mill.  
 Fur-trading established in Alaska.  
 Feb. 5.—Independence of United States acknowledged by Sweden.  
 Feb. 25.—Independence of United States recognized by Denmark.  
 March 24.—Independence of United States acknowledged by Spain.  
 April 11.—Peace proclaimed by Congress.  
 “ 19.—Peace announced by Washington to the army.....494  
 July.—Independence of United States recognized by Russia.  
 Sept. 3.—Definitive treaties of peace between England and the United States, France, Spain, and Holland.  
 Oct. 18.—Proclamation for disbanding the army.  
 Nov. 2.—Washington's farewell orders.....494  
 Nov. 25.—New York evacuated by the British.....494  
 Dec. 23.—Washington resigns his commission.....495  
 Great distress prevailed in the United States owing to scarcity of money.  
 Treaty of peace with the Six Nations at Fort Schuyler.

1784.

1784. First agricultural society in the United States at Philadelphia. Methodist Church organized by Bishop Coke.  
Feb.—First voyage made from China to New York.
1785. Commercial treaties between United States and Prussia, Denmark, and Portugal.  
Thomas Jefferson sent as Minister to France.  
John Adams Minister to London. He was the first ambassador from the United States to Great Britain.  
Copper cents first issued from a mint at Rupert, Vt.
1786. Financial embarrassment threatens the peace of the country.  
Death of Gen. Greene. ....472  
First cotton mill in the United States built at Beverly, Mass.

## SHAY'S REBELLION.

Dec.—Shay's rebellion in Massachusetts. After the war there occurred a series of outbreaks against the Government, which were caused by the impoverished condition of the country, and the feeling of discontent and dissatisfaction of the soldiers, who as yet had received little toward satisfying their claims, and also, as a consequent result of war, by a demoralizing influence which was ready to be kindled into a flame by every appeal to passion or selfishness. A rebellion was organized under the command of Daniel Shay, Luke Day, and Eli Parsons, which attempted the overthrow of law and order, and the establishment of mob force. They proceeded to march upon Springfield, and prevent the sitting of court, and if possible, seize the arsenal. But Governor Bowdoin summoned the militia, numbering over four thousand, under command of Gen. Lincoln, and by prompt and decisive measures it was quickly suppressed.

1787. May to Sept.—Convention held in Philadelphia of the States to form a Federal Constitution. ....446  
Sept. 28.—The Constitution as it now stands, minus the amendments since added, was laid before the Continental Congress, which sent it to the several States for approval.

## INVENTION OF IRON BRIDGES.

1788. Iron bridges invented by Thomas Paine, the author of "Common Sense" and "Age of Reason." He made a model for an iron bridge to be built over the Schuylkill, with a single arch of iron of 400 feet span. The idea was suggested to his mind by observing the construction of a spider's web.

## FIRST CONSTITUTIONAL CONGRESS.

1789. March 4.—First Congress under the National Constitution assembled at New York.  
Mackenzie, in the employment of the Northwestern Fur Company, made an overland journey to the great polar river named for him, which empties into the Arctic Sea.  
Aug. 22.—John Fitch exhibited a boat on the Schuylkill, at Philadelphia, propelled by steam, and afterward a stock company was formed, which built a steam packet that ran till the company failed in 1790.

## THE ORIGINAL THIRTEEN STATES.

When the National Government was established, the number of the States was thirteen, viz.: New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia.

1789. Congress passed first tariff bill. The departments of State, War, and Treasury created.

THE FIRST PRESIDENT.

April 30.—Inauguration of George Washington as President, and John Adams as Vice-President.....496  
 John Carroll the first Catholic Bishop in the United States.

First Temperance Society formed in the United States by 200 farmers in Litchfield county, Connecticut.

1790. Laws passed—ordering a census to be taken; to provide for payment of foreign debts; naturalization law; patent law; copyright law; law defining treason and piracy; penalty for both, hanging; status of the slavery question settled; State debts, etc.

Congress removed to Philadelphia.

District of Columbia ceded to the United States by Maryland, for the location of the National Government.

Oct. 17-22.—Harmar defeated by the Indians on the Maumee in Indiana, near Fort Wayne. Gen. Harmer, with a force of 1453 men, attacked the Indians with small detachments of his force, and was twice defeated with great loss.

First rolling mill introduced into the United States.

April 17.—Death of Benjamin Franklin.....435

May 29.—Death of Major-Gen. Israel Putnam, at Brookline, Conn., aged 72 years. Gen. Putnam, although an illiterate man and a backwoodsman, was one of the bravest and most truly patriotic Generals in the American Army.

FIRST CENSUS.

First census taken—population 4,000,000.

Samuel Slater, the father of cotton manufacturing in the United States, set up first machinery for spinning cotton.

1791. United States Bank chartered by Congress with a capital of \$10,000,000; stock all taken the first day.

Congress laid a tax on whisky—the first internal taxation to raise money in the United States.

First patent issued for threshing-machines.

Gen. Wayne appointed Commander-in-Chief of the American forces...498

Canada divided into Upper and Lower, or afterward, East and West Canada.

ST. CLAIR'S DEFEAT.

Nov. 4.—St. Clair's defeat by the Indians. While encamped with his whole army, 2000 strong, upon a stream tributary to the Wabash, he was surprised early in the morning by a large force of Indians, under the chief "Little Turtle." The surprise was so complete, the troops having just been dismissed from parade, and Gen. St. Clair not being able to mount his horse, that the militia, who were first attacked, fled in utter confusion.....489

1792. Law passed for establishing a mint.

Congress passed an act apportioning representatives under the new census, which gave Congress 105 members.

Great opposition to the tax on whisky.







1792. May 7.—Capt. Gray, commander of the American ship *Columbia*, discovered the Columbia River, naming it after his ship.  
Academy for the education of girls opened at Litchfield, Conn., by Miss Prime.  
First daily paper established.  
Oldest canals in the United States dug around the rapids in the Connecticut River, at South Hadley and Montague Falls.
1793. Washington inaugurated the second time as President, with John Adams again as Vice-President.

Fugitive Slave Law passed.  
John Hancock and Roger Sherman die.

## INVENTION OF THE COTTON GIN.

Cotton gin invented by Whitney. A machine for separating seeds from cotton; an invention which revolutionized the cotton trade, and which added more to the wealth and commercial importance of the United States than any other invention or enterprise could have done at that time.

*Yellow Fever first visited the United States at Philadelphia.*

Automatic signal telegraph introduced and applied in New York.  
Steam first applied to saw-mills in Pennsylvania by Gen. Bentham.  
President's salary fixed at \$25,000.

## WHISKY REBELLION.

1794. Great whisky rebellion in Western Pennsylvania, caused by the tax levied upon whisky. A large district in Pennsylvania, where the crops of grain were over-abundant, and no adequate market except the great Monongahela distillers, openly resisted the tax by resorting to mob law. Officials and loyal citizens were whipped, branded, tarred and feathered, and great excitement prevailed in all the Northern States. The Union was imperiled, and Washington headed an army to meet the crisis. The rebellion was soon suppressed, and law and order established . . . . . 498

First woolen factories and carding machines in Massachusetts.

## WAYNE'S GREAT VICTORY.

Aug.—Wayne's great victory over the Indians, under "Little Turtle." Gen. Anthony Wayne, or "Mad Anthony," as he was called, on account of his reckless courage, attacked the Indians upon the Maumee, in Ohio, and by his determined and impetuous charge, he routed the whole Indian force from their favorite fighting ground, and drove them more than two miles through thick woods and fallen timber in the course of one hour, causing them to sue for peace on the conqueror's own terms. Their confederacy was completely annihilated. . . . . 498

Act passed for building ships of war, which laid the foundation for the present navy system.

American vessels were prohibited from supplying slaves to any other nations.

First sewing thread ever made from cotton produced at Pawtucket, Rhode Island.

1795. Great opposition to the treaty with Great Britain. War imminent, but the great firmness and decision of Washington averts it . . . . . 499
- First large American glass factory built at Pittsburg.
1796. John Adams and Thos. Jefferson elected President and Vice-President, 500  
Dec. 7.—Washington's last speech to Congress, declining farther office, 500

1797. March 4. Inauguration of John Adams as President.....500  
 No peaceful nations were to be interrupted by privateering, under penalty of \$10,000 fine and 10 years imprisonment.  
 France, incensed at the neutrality of the United States, in their war with England, banished the U. S. minister (Mr. Pinckney) from Paris.....502  
 The treaty of alliance with France revoked by Congress, and authority given for capturing armed French vessels.....502  
 Provisions made for raising a small regular army.....502

FIRST CAST IRON PLOW.

First cast-iron plow patented by Newbold of New Jersey. The patentee expended \$30,000 in perfecting and introducing the plow, and the farmers refused to use it, alleging that it poisoned the land and promoted the growth of rocks!

*Commercial Advertiser* established in New York.

1798. A direct tax and additional internal revenues were laid.....502  
 Navy department created and a number of war vessels ordered to sea, in expectation of war with France.....502  
 Washington appointed Commander-in-Chief of the army, by President Adams.....502

THE "STATE'S RIGHTS THEORY."

Congress passed alien and sedition laws, which called out the first expression of the "State's Rights Theory."

1799. Naval engagement between American and French ships of war. America victorious, and terms of peace are secured.....502  
 First teachers' association, called the Middlesex Co. Association, for the improvement of common schools, composed mostly of teachers.  
 Death of Washington, first President of the United States.

VON HUMBOLDT.

Humboldt visited South America, and explored the mountain regions, and gathered new collections to his vast stores of scientific facts and natural curiosities.

—1800.—

1800. Removal of the seat of Government to Washington.....503  
 General bankruptcy law passed.  
 May 13.—Disbanding of the provisional army.....503  
 Nov.—*The Democratic, or old Republican party* elected its first candidate for President.  
 1801. March 4.—*Inauguration of Thomas Jefferson as President of the United States, with Aaron Burr for Vice-President*.....503  
 June 10.—War with Tripoli commenced.....504  
 June 14.—*Death of Benedict Arnold*.....431  
 1802. Port of New Orleans closed by the Spanish Government, and United States vessels were forbidden to pass down the Mississippi River.  
 First public library founded.  
 Academy of Fine Arts established in New York.  
 First patents issued for making starch from corn and potatoes.

1803. American fleet sent to punish pirates in the Barbary States and North Africa.....504  
 First undenominational tract society formed, and called "Society for Promoting Christian Knowledge."  
 Adam and Wm. Brent began the manufacture of pianos in Boston.  
 First effort made toward teaching mutes.
- LOUISIANA PURCHASE.
- April 30.—The territory lying between the Gulf of Mexico and the British possessions, the Mississippi River and the Pacific Ocean—over 1,000,000 square miles—purchased of France for \$15,000,000. This vast territory constituted the original State of Louisiana.....504
1804. Feb. 4.—Frigate *President* destroyed at Tripoli by Decatur.....505  
 Fort Dearborn built—the present site of Chicago.  
 Lewis and Clark exploring expedition starts across the plains.  
 The Delaware Indians cede to the United States an extensive tract of land lying east of the Mississippi River, and between the Ohio and Wabash Rivers.....505
- DUEL BETWEEN ALEXANDER HAMILTON AND AARON BURR.
- July 11.—Alexander Hamilton, ex-Secretary of the Treasury, shot and killed in a duel with Aaron Burr, Vice-President of the United States.
1805. Sitka, Alaska, founded by the Russian-American Fur Company.  
 Ice first became an article of commerce in the United States.  
*England seized several armed American vessels and insulted the national flag.*  
 March 4.—*Thomas Jefferson re-inaugurated as President, with George Clinton for Vice-President.*.....503
- COLUMBIA RIVER AND OREGON EXPLORE.
- Nov. 15.—Clark and Lewis arrived at the Columbia River on their exploring voyage.
1806. Scoresby, in command of a whaling vessel, reached the latitude of 81 deg.—within 630 miles of the North Pole.
- SPOTTED FEVER.
- The spotted fever appeared in Massachusetts, spreading over the other States, and continuing until the year 1815, and proved very fatal.  
*First Relief Society for widows and children, founded in New York by Joanna Bethune.*  
 Total eclipse of the sun at midday.  
 Nov. 21.—*Bonaparte's "Berlin Decree,"* which forbade the introduction of English goods into any port of Europe, even by the vessels of neutral powers.....506
1807. British vessels ordered to leave United States waters.....507  
 June 22.—Attack on the American frigate *Chesapeake* by the British ship *Leopard*.....506
- AARON BURR TRIED FOR TREASON.
- Aaron Burr was tried for high treason, and was also charged with a conspiracy against the Government, and with being ambitious for dominion, and with contemplating founding a new empire, with himself for sovereign. But the prosecution failed in its legal proofs, and he was acquitted.  
 Congress ordered the first coast survey.

1807. *SLAVE TRADE DECLARED TO BE PIRACY.*  
*Importation of slaves forbidden* by Congress, and the traffic declared to be piracy.

Wooden clocks first manufactured by machinery in Connecticut, by Eli Terry.

Dec. 22.—*Embargo laid* by the United States upon all commerce preventing American vessels from sailing for foreign ports, and all foreign vessels from taking out cargoes, and all coasting vessels were required to give bonds to land their cargoes in the United States. . . . .506

## FULTON'S STEAMBOAT.

*First successful steamboat* built by Robt. Fulton, a native of Pennsylvania, and called the *Clermont*. Mr. Fulton made his trial trip on the Hudson River, from New York to Albany, and thousands of curious spectators thronged the shores to witness the failure of "Fulton the Funic." None believed, few hoped, and everybody jeered. An old Quaker accosted a young man who had taken passage, in this manner: "John, will thee risk thy life in such a concern? I tell thee she is the most fearful wild-fowl living, and thy father ought to restrain thee." But, on Friday morning, the 4th of August, the *Clermont* left the wharf, and went puffing up the Hudson with every berth, twelve in number, engaged to Albany. The fare was seven dollars. Fulton stood upon the deck and viewed the motley and jeering crowd upon the shore, with silent satisfaction. As she got fairly under way and moved majestically up the stream, there arose a deafening hurrah from ten thousand throats. The passengers returned the cheer, but Fulton, with flashing eye and manly bearing, remained speechless. He felt this to be his long-sought hour of triumph. They were cheered all along the whole garrison from every hamlet and town, and at West Point the whole surrounding country had gathered, and the side-hill city swarmed with curious and excited multitudes. The boat reached Albany safely—150 miles in 32 hours, and returned in 30. The *Clermont* was a success, and Robert Fulton was famous.

1808. Jan. 1.—*Slave-trade in the United States abolished.*  
*First printing office west of the Mississippi River* established at St. Louis, by John Henkle.  
 First Bible Society founded in Philadelphia.
1809. First woolen mills set up in New York.  
 March 1.—*The Embargo repealed* . . . . .507  
 " 4.—James Madison and George Clinton inaugurated President and Vice-President. . . . .507

## BONAPARTE'S ORDERS.

1810. Napoleon Bonaparte ordered the sale of 132 confiscated American vessels and cargoes, valued at \$8,000,000.  
 March.—*Rambouillet Decree* issued by Napoleon, ordering all American vessels to be seized and condemned. . . . .507  
 Manufacture of steel pens began in Baltimore.  
*First agricultural fair* in the United States held at Georgetown, D. C.
1811. May 16.—Engagement between the U. S. frigate *President* and the British sloop of war *Little Belt*. . . . .508  
 Depredations upon American vessels by England and France continued, 508

1811. Plan for plating vessels with iron, as a defense against shot and shell, devised by I. L. Stevens.

*The first steamboat for Western waters, the New Orleans, built at Pittsburgh.*

Nov. 7.—*Battle of Tippecanoe.* Tecumseh defeated by Gen. Harrison. 510

Dec.—*Burning of a theatre in Richmond.* The Governor of Virginia and family, and a large number of persons, perished in the flames.

GREAT EARTHQUAKE.

Great and extensive earthquake at New Madrid, Mo., extending nearly 800 miles along the Mississippi, and doing great damage to the country, changing the currents of the rivers and swallowing up large sections of land.

*John Jacob Astor's Pacific Fur Company* established their post at Astoria, Oregon.

Breech-loading rifles were invented by John Hall.

*The number of American vessels captured by England in the preceding five years was 917, by France 558, and 10,000 seamen were impressed.*

1812. April 3.—*Embargo laid for 90 days.*

May.—Congress levied a tax of \$3,000,000.

WAR OF EIGHTEEN HUNDRED AND TWELVE.

June 18.—War declared with Great Britain ..... 508

“ 23.—British Orders in Council repealed.

July 12.—Hull invaded Canada..... 508

“ 17.—Surrender of Mackinaw..... 508

Aug. 5.—Van Horn defeated.

“ 8.—Miller defeated.

“ 13.—The *Essex* silenced the British ship of war *Alert*.

“ 15.—Surrender of Gen. Hull at Detroit before the first blow was

struck..... 508

Aug. 19.—Capture of the British frigate *Guerriere* by the *Constitution* (“Old Ironsides.”)..... 509

Oct. 13.—Defeat of the Americans at Queenstown.

“ 18.—Capture of the British brig *Frolic* by the United States sloop of war *Wasp*..... 508

Oct. 25.—Capture of the British frigate *Macedonian* by the frigate *United States*, Capt. Decatur..... 509

Dec. 29.—Destruction of the British frigate *Java*, off the coast of Brazil, by the *Constitution*, Capt. Bainbridge..... 509

1813. *Massacre by the Indians at Frenchtown* of American prisoners in care of Gen. Proctor, who left them unprotected..... 509

March 4.—*James Madison re-inaugurated as President*, with Elbridge Gerry for Vice-President..... 705

The Creek Indians subdued by Gen. Jackson..... 511

*The British blockade the American coast*..... 506

*Duel between Gen. Jackson and Col. Benton.*

Mexico declared independent, and a National Congress called under Morales.

*First rolling-mills built at Pittsburg, Pa.*

1813. *Stereotyping first introduced into the United States.*  
 Feb. 25.—The *Hornet*, Capt. Lawrence, captures the British sloop *Peacock*..... 509  
 April 27.—Capture of York (Toronto), Upper Canada, by Brig.-Gen. Pike, who lost his life by the explosion of the magazine during the action..... 509  
 May 27.—Battle of Fort George..... 509  
 " 28.—British attack Sackett's Harbor and are repulsed..... 509  
 June 1.—*Capture of the frigate Chesapeake*, Capt. Lawrence, by the British frigate *Shannon*. The captain of the *Chesapeake* was killed in the action. 510  
 July.—Attack of British and Indians upon Fort Meigs and Fort Stephenson  
 Aug. 14.—American ship *Argus* taken by the British sloop *Pelican*.... 510  
 " 30.—Massacre of Fort Mimms, Ala. Three hundred persons killed by the Indians..... 510-11  
 Sept 5.—*Enterprise* captures the *Boxer*.  
 " 10.—Commodore Perry's great victory on Lake Erie..... 510

TECUMSEH KILLED.

- Oct 5.—Battle of the Thames, Canada, between Gen. Harrison and Gen. Proctor, with his Indian allies under Tecumseh, who was killed in the action..... 510  
 Nov. 11.—Battle of Williamsburg.  
 Dec. 12.—Burning of Newark, Canada.  
 " 13.—Buffalo burned by the British.  
 " 29.—Capture of Fort Niagara, N. Y., by the British.  
 " 30.—Desolation of the Niagara frontier by the British.  
 1814. March 27.—Battle of Horse-shoe Bend, by Gen. Jackson, in the Creek war. The Indians were entirely subdued, and 600 warriors were slain. Peace was soon secured..... 511  
 April 29.—*Peacock* captures the *Epervier*.  
 May 5.—Oswego bombarded and taken by the British..... 511  
 June 25.—The *Reindeer* captured by the *Wasp*.  
 July 3.—Fort Erie captured from the British..... 511  
 July 5.—Battle of Chippewa fought by Gens. Brown and Scott..... 511  
 July 25.—*Battle of Bridgewater, or Lundy's Lane*, fought under Gen. Scott, who was wounded..... 511  
 Aug 9 and 11.—Stonington, Conn., bombarded by the British.  
 Aug. 15.—Battle of Fort Erie.  
 " 24.—Battle of Bladensburg.

WASHINGTON BURNED.

- Aug. 25.—British occupy Washington, and burn the capitol and public buildings..... 512  
 Aug 29.—Alexandria, D. C., taken by the British..... 512  
 Sept. 1.—The *Wasp* captures the *Avon*.  
 " 5.—Attack on Fort Bower (now Morgan), Ala. The American loss was 219..... 511

1814. Sept. 11.—*McDonough's victory on Lake Champlain*, near Plattsburg. The British lost in this engagement over 2,000 men.  
 Sept. 12.—Battle near Baltimore. Bombardment of Fort Henry.  
 Nov. 7.—British expelled from Pensacola, Fla., by Jackson.  
 Dec. 14.—Battle on Lake Borgue, La. . . . . 513  
 " 22.—Battle below New Orleans, La. . . . . 518  
 " 24.—Treaty of Peace signed at Ghent, Belgium. . . . . 514  
*Jethro Wood patented his iron mold-board plow.*  
*First steel plates for engraving made by Jacob Perkins, of Massachusetts.*  
*Indian massacre at Fort Dearborn (now Chicago), Ill., and the fort burned.*  
 John Gilroy, first Anglo-Saxon settler in California, settled in the Santa Clara Valley.

## JACKSON'S GREAT VICTORY AT NEW ORLEANS.

1815. Jan. 8.—Battle of New Orleans. Gen. Jackson commanded the American forces, and Gen. Packenham the British. Jackson obtained a great victory, the British loss amounting to nearly 2,000, while the Americans lost but 13 men. . . . . 512  
 Jan. 15.—The *President* captured by a British squadron.  
 Feb. 17.—Treaty of Ghent ratified by the President. . . . . 514  
 Feb. 20.—*Constitution* captures the *Cyane* and *Lexant*.  
 Feb. 24.—*Robert Fulton*, the first successful inventor and builder of a steam-boat, died in New York.  
 March.—War declared with Algiers . . . . . 514  
 March 23.—*Hornet* captures the *Penguin*.  
 First axes manufactured in the United States by Oliver Hunt, in East Douglass, Mass.

## GREAT GALE IN NEW ENGLAND.

- September 23.—Great gale and flood in New England. Immense damage was done to property, and much shipping destroyed in the harbors, and the loss of life was great. In Providence, Rhode Island, vessels were actually driven over the wharves and through the streets. The rain descended in torrents, and in many places families were rescued in boats from the upper stories of their houses. Majestic oaks, a hundred years old, were torn up by their roots, and twisted into shreds. In Stonington, Conn., the tide rose 17 feet higher than usual. There is no account of a storm or gale, in all respects, so remarkable as was this in the history of the United States. In 35 hours the fall of rain reached 8.05 inches. The damage done by the flood almost equaled that of the hurricane. Millions of dollars of property and very many lives were lost.
1816. Second United States Bank chartered with a capital of \$35,000,000.  
 Steam first applied to paper-making at Pittsburg.  
 James Monroe was elected President and Daniel C. Tompkins Vice-President. . . . . 515  
 Miss Emma Willard opened her famous school for girls in Troy, N. Y.  
 This was known as the year without a summer.
1817. Pensions granted to Revolutionary soldiers.  
 Indians in Georgia and Alabama subdued by Generals Jackson and Gaines. . . . . 511

1817. Erie Canal commenced.  
Publishing house of Harper & Brother founded in New York.  
The Columbian Printing-press, invented by Geo. Clymer, was the first important improvement in printing-presses in this country.
1818. Corner Stone of the present United States Capitol laid.  
U. S. flag permanently remodeled.  
Pensacola, Florida, captured from the Spanish by Gen. Jackson.

FIRST STEAMBOAT CROSSED THE ATLANTIC.

1819. The American steamship *Savannah* made the first steam voyage across the Atlantic.

ODD FELLOWSHIP IN THE UNITED STATES.

April 26.—The first permanent Lodge was formed in Baltimore, Md., by Thomas Wildey, an Englishman, with a membership of five persons, and called Washington Lodge, No. 1. To-day the membership of the Order is numbered by scores of thousands.

MISSOURI COMPROMISE.

1820. *Missouri Compromise agreed to by Congress.*  
In 1818 a petition was presented to Congress from the Territory of Missouri, asking authority to form a Constitution for a State. In Feb., 1819, Mr. Talmage, a New York Republican, moved an amendment prohibiting the introduction of slavery into any new State. A stormy debate of three days followed, during which Mr. Cobb, of Georgia, said, "A fire has been kindled which all the waters of the ocean cannot put out, and which only seas of blood can extinguish." To which Mr. Talmage replied: "If evil war, which gentlemen so much threaten, must come, I can only say, let it come! . . . If blood is necessary to extinguish any fire which I have assisted to kindle, while I regret the necessity, I shall not hesitate to contribute my own." The Senate struck out the amendment and the measure was lost. In 1820 a bill was passed authorizing Missouri to form a Constitution without restrictions, but to which was attached a section prohibiting slavery in all territories north of latitude 36 deg. 30 min. This clause is what is known as the "Missouri Compromise," and was warmly advocated by Henry Clay, and which was called "Henry Clay's Compromise Measure."  
Oct.—Cession of Florida to the United States for \$5,000,000, and ratified by Spain . . . . . 517  
Heated discussions in Congress on the Slavery Question.

Monroe elected President the second time, with Daniel C. Tompkins again as Vice-President.

PETROLEUM DISCOVERED.

Petroleum springs were first struck in Ohio, although their existence was known to the earliest settlers around the head waters of the Alleghany River, and oil-creeks were found in Pennsylvania and New York, from which the inhabitants gathered oil by spreading woolen blankets on the surface and wringing them out.

Macadamized roads first introduced into the United States.

Death of Daniel Boone, of Kentucky, an American pioneer, explorer, and huntsman of much renown.

1821. July 21.—Jackson takes possession of Florida. . . . . 517  
1822. First cotton-mill built in Lowell, Mass.

1822. Gas successfully introduced into Boston.  
War by Commodore Porter on the Cuban pirates.  
"MONROE DOCTRINE."
1823. June 18.—*Monroe Doctrine.* The message of President Monroe, for this year, contained the following declarations: "That we should consider any attempt, on the part of the allied powers, to extend their system to any portion of this hemisphere as dangerous to our peace and safety," and "that we could not view any interposition for the purpose of oppressing governments on this side of the water, whose independence we had acknowledged, or controlling, in any manner, their destiny by any European power, in any other light than as a manifestation of an unfriendly disposition toward the United States."
1824. Congress passed a tariff to protect and encourage cotton manufacturers.  
March 13. Convention with Great Britain for the suppression of the slave trade..... 518  
Aug. 13.—Arrival of Gen. Lafayette on a visit to the United States.... 413  
Nov.—John Quincy Adams elected President, and John C. Calhoun Vice-President.  
Mexican Congress proclaimed a new Constitution similar to that of the United States, and a Republic of 19 States and five Territories formed with Guadalupe Victoria as President, and Gen. Bravo as Vice-President.
1825. The capitol at Washington completed.  
FIRST OVERLAND JOURNEY TO CALIFORNIA.  
Jedediah Smith, a trapper, performed the first overland journey to California, and established a post near the town of Folsom.  
Sept 7.—Departure of Lafayette for France.
1826. July 4.—The 50th anniversary of American Independence. A grand jubilee was universally observed throughout the United States.  
July 4.—Death of John Adams, first Vice-President and second President of the United States.  
July 4.—Death of Thomas Jefferson, third President of the United States.  
Visit of Baron Alexander von Humboldt, the great German naturalist, geologist, and distinguished scientist, to the United States.  
Oct. 26.—Opening of the Erie Canal with a grand celebration.  
First pianos manufactured in the United States.  
Duel between Henry Clay and John Randolph, caused by personal insults flung openly in the Senate Chamber at Mr. Clay, as Secretary of State. Both of these illustrious men lived in times when, and were educated under a code of morals which recognized no other means of satisfying insulted honor. It was much practiced in the early days of "Southern Chivalry," but which was ever regarded by the cool and more philosophical statesmen of the North as a pernicious, dishonorable, and brutal custom. Mr. Randolph refused to retract, and also refused to take the life of his antagonist, and resolved not to return the fire of Mr. Clay, yet he made every preparation for death, as far as his worldly affairs were concerned. Upon the ground, the pistol of Mr. Randolph accidentally went off while repeating the words of signal after his second, but which was admitted to be purely accidental. Two shots were exchanged, Randolph's first lodging in a stump in the rear of Mr. Clay, and the latter's ball striking the earth several feet behind Mr. Randolph. The second firing resulted the same, except that Mr. Randolph discharged his pistol in the air. He remarked to Col Benton, just after the first fire: "I

1826. would not have seen him fall mortally, or even doubtfully wounded for all the land that is watered by the king of floods and all his tributary streams." Mr. Clay, upon seeing Mr. Randolph's pistol discharged in the air, approached him, and with deep emotion said: "I trust in God, my dear sir, you are untouched; after what has occurred, I would not have hurried you for a thousand worlds." The antagonists formally exchanged cards, and their relations of courtesy were restored. Thus ended an "affair of honor," which in the progress of civilization has become in the eyes of all honorable men a barbarous and inhuman practice.
- 1827. May.—A general treaty of peace, navigation, and commerce between United States and the Republic of Colombia..... 523  
 Great excitement over the "Morgan affair," and great opposition to Freemasonry. Political capital made out of the alleged murder of Morgan.  
 First railroad in the United States built at Quincy, Mass., and operated by horse-power.
1828. Congress passed a protective tariff, which caused much opposition at the South.  
*First locomotive* introduced from England by the Delaware and Hudson Canal Company, being the first steam-engine used in the United States.  
 Baltimore and Ohio R. R. begun.  
 Congress made provision to pay the officers of the Revolutionary War. 523  
 Names of "Democrat" and "Republican" chosen this year for the parties still bearing that name.  
 Gen. Andrew Jackson and John C. Calhoun chosen to fill the offices of President and Vice-President.  
 Planing mill patented by Wm. Woodworth, of New York.
1829. Mexican independence recognized by the United States.  
 Jan. 26.—Daniel Webster's great speech defending the Constitution. . . 528  
 Feb. 20.—Resolutions passed by the Virginia House of Delegates against the United States Tariff Bill.  
 May 2.—Hail falls in Tuscaloosa, Alabama, to the depth of twelve inches.
- FIRST ASYLUM FOR THE BLIND.
- Perkins Institute and Massachusetts Asylum for the Blind established through the efforts of Dr. John D. Fisher, with Dr. Samuel G. Howe as Director, who held the position forty-three years.  
 President Jackson removed 700 officeholders, which established the precedent since so closely followed. He is credited with the saying, "To the victor belong the spoils."
- RISE OF MORMONISM.
1830. April 6.—Mormon Church founded upon the supernatural pretensions of Joseph Smith, an ignorant, dissolute, but pretentious young man, who had no reputation for good in the community where he lived, in Palmyra, N. Y. Smith was the pretended author of a new revelation, which he called the "Book of Mormon," or "Golden Bible." He dictated the contents to Oliver Cowdery, while seated behind a blanket hung across the room, to keep profane eyes from beholding the "sacred records," or metallic plates which he claimed to have exhumed by direction of the Holy Spirit! These he professed to be reading, with the aid of the Urim and Thummim—the ancient stones revived—by looking through which, the strange characters were converted into English! The *true origin* of this book is claimed to be the manu-

1830. script of an eccentric preacher, by the name of Spaulding, who became involved in debt, and undertook the composition of a historical novel, entitled "Manuscript Found;" by which means he hoped to liquidate his debts. The MSS. were written in 1812, and left in a printing office where Sydney Rigdon was a workman. In 1816 Mr. Spaulding died. When the new Bible appeared, Mr. Miller, a partner of Spaulding, also Mr. Spaulding's wife, recognized the plagiarism, and testified to a great portion of the book as being the production of Spaulding's pen. The characters, names, etc., were verbatim from Spaulding, but mixed up with Scripture quotations, together with Bible doctrines and altogether forming a book of several hundred pages. The main features of the Mormon religion were the pretended "gifts of the Church," by which the same miracles which were wrought by Christ were claimed to be wrought by Smith and his apostles, even to the raising of the dead. Kirtland, Ohio, became the headquarters of the Mormons in 1831, and they began rapidly to increase. A body of them started a church in Jackson Co., Mo., where their numbers increased so rapidly that the old settlers becoming alarmed, held public meetings, protesting against the invasion of the new sect. The citizens demanded the suppression of their paper, which being refused, it was destroyed by a mob. The excitement prevailed to such an extent, that some of their houses were destroyed and their leaders whipped, and during a fray several lives were lost on both sides. Persecutions but strengthened the zeal of the fanatics. They moved about from place to place, and finally settled down in Nauvoo, Ill., where they began the erection of a Temple. They now took the name of "Latter-Day Saints." In 1833 Brigham Young was converted to the new faith. In 1837 the Mormons carried their new religion to the Old World, where superstition and ignorance abounded. There it flourished and took deep root among the lower classes, who have ever been the dupes of designing religious pretenders. The light of reason and education always dispels the dark clouds of superstition and bigotry, and no sect, founded upon superstition and pretended wonders and miraculous demonstrations, can longer hope to flourish where an open Bible, free schools, and a free press abound. In 1839 the "Latter-Day Saints," under the leadership of Smith, united their forces and began a settlement and the building of their Temple in Nauvoo. Polygamy was now introduced by "revelation to Smith," as a special privilege to the head of the Church. During 1842-3-4, Smith was repeatedly arrested on charges of murder, treason, and adultery, but managed to avert punishment, until the summer of 1843, when, with his brother Hiram, he was sent a prisoner by the Governor of Illinois to Carthage, where they were arrested for treason, and placed in prison under guard. On the 27th of June a mob of outraged citizens, disguised, broke into the jail and summarily killed them both. Great mourning and lamentations went up from the afflicted Mormons. They sent word to all the faithful far and near, that the "Lord's Prophet" was killed. Brigham Young was appointed successor to Joseph Smith, much to the chagrin of Sydney Rigdon.

The Mormons were now compelled to abandon their city and Temple. They proceeded at once to establish themselves beyond the bounds of civilization, where they could carry out their dark and devilish designs, and lay the foundation of their unholy schemes, unmolested by law, order, or even decency. A desolate region near the shores of the Great Salt Lake was chosen for the seat of their city and government, for they aspired to no less pretensions than the "Veritable Kingdom of God," and Brigham Young His chosen Prophet, Priest, and King, temporal, or ruler of the "Saints of God"—could mortal man aspire to greater dignity or power? But—"Mirabile dictu!"—this chief of impostors actually succeeded in establishing a form of government in the very center of the United States, with himself as governor, with laws to suit himself, defying the Government and all law and interference upon

1830. the pretended authority of "Divine Revelation" and "appointment!" Here in the heart of the great wilderness they began to build the "New Jerusalem"—since called Salt Lake City. Here they flourished like "a green bay tree" and imported their devotees from the ignorant and oppressed classes of Europe by thousands, under pretense of bringing them to the "land of promise." They rapidly increased until they numbered many thousands, and became a terror to emigrant trains, robbing, plundering, and murdering the helpless victims at their will. The great "Mountain Meadow Massacre," designed and prosecuted by the Mormon leaders, was, after twenty years' successful evasion, brought to light, and one of its leaders executed by United States authority. But it is pretty generally believed that Brigham Young and his apostles were instrumental in nearly all the depredations committed throughout the great plains of the West, which were attributed to the Indians. One great secret of the indifference of the Government to the alarming growth of this monstrosity in the heart of her territory, was its remoteness from the very borders of civilization, and the astounding success of its leaders in founding a city and a government, populated and improved by dint of systematic industry and perseverance which challenged the admiration of all who visited that oasis of the Great Desert—the far-famed Salt Lake City. The Government and military officials, newspaper correspondents, and prominent men of the nation who visited Utah were feted and flattered, and sometimes *bought up* by that great dignitary, Brigham Young, who held unlimited sway over a vast territory of willing subjects, and who controlled, not only the press, the schools, and the religion, but the *finances* of a large territory representing immense resources and wealth. But the onward march of civilization is fast accomplishing to-day what a tardy Government should have done at the start; for no great oppressive power can long exist surrounded by the elements of freedom.

Dec. 9.—Building of the South Carolina Railroad.

American Institute of Learning founded in Boston.

1831. July 4.—Death of James Monroe, fifth President of the United States.

Oct. 1.—Free Trade Convention at Philadelphia.

" 26.—Tariff Convention at New York.

Manning mowing-machine patented (the first useful mowing-machine made).

Chloroform discovered by Samuel Guthrie, of Sackett's Harbor, N. Y.

Steam knitting-machine first used, at Albany, N. Y., by Timothy Bailey.

Dr. Howe, of New York, invented the first practical machine for making pins.

Buttons first made by machinery in the United States by Joel Hayden, of Connecticut.

#### GIBBS, THE PIRATE, EXECUTED.

Capture and execution of Gibbs, the most noted pirate of the century. He was called the "Scourge of the Ocean." In his confession he stated that he had been concerned in robbing over forty vessels, and he gave the names of near a score of vessels taken by the pirates under his command, the crews of which were murdered.

1832. Congress passed a new protective tariff bill. Great opposition in the South. South Carolina threatened secession. . . . . 528

1832. GEN. JACKSON VETOES SECESSION.  
President Jackson ordered the naval and military forces to Charleston to enforce the laws, which put an end to the secession..... 528

## FIRST APPEARANCE OF CHOLERA.

- June 8.—Cholera at Quebec; the first case in America.  
June 21.—First case of Asiatic Cholera in the United States, which scourge swept over the entire land, hurrying thousands into a sudden and terrible death..... 528  
Aug. 27.—Black Hawk War, and capture of Black Hawk..... 534  
Andrew Jackson chosen for President, and Martin Van Buren, Vice-President.

Death of Charles Carroll of Carrollton, the last surviving signer of the Declaration of Independence.

President Jackson vetoed the United States Bank bill.

Dec. 28.—John C. Calhoun resigned his office as Vice-President.

Electro-Magnetic Telegraph invented by Professor Morse.

Asiatic Cholera appeared again in New York City, lasting two months, and resulting in 3,400 deaths.

1833. Dr. Samuel Guthrie first published his discovery of chloroform.  
March 4.—Andrew Jackson inaugurated President for a second term.

## JACKSON CLOSES THE UNITED STATES BANK.

President Jackson being informed that the United States Bank was using large sums for political purposes, removed the deposits and closed all operations, contrary to the advice of his Cabinet, and in direct opposition to Congress. Great excitement was caused by this act, and two attempts were made to take his life. Thomas H. Benton and John Forsyth supported the President in the Senate, but Clay, Calhoun, and Webster united in the opposition. The name "Whig" was adopted by the opposition party..... 533

The Southern States held a "State's Rights" Convention.

May 3.—Congress passed Henry Clay's compromise tariff law.

May 24.—Death of John Randolph, a distinguished United States Senator from Virginia.

First double cylinder printing-press constructed by Hoe & Newton.  
First useful reapers patented.

## FIRST NEWSBOY.

First copy of New York *Sun* printed by Benj. H. Day, and sold for one cent per copy. Its sale on the streets created the first "newsboy" that ever cried in the streets of an American city.

Nov. 13.—Great meteoric shower known as the "falling stars," which created a great sensation all over the country. Much fear and consternation were excited among the superstitious, many supposing the "end of the world" had come.

A model flying-machine was constructed by Rufus Porter, of New Britain, Conn., who kept experimenting, until about fourteen years later he produced a model propelled by steam, which he exhibited at Washington and in the Merchants' Exchange, New York, and a journal of the day declared "it made the circuit of the rotunda eleven times like a thing animated with life."

1834. March.—Vote of censure by the Senate against the President for removing the Bank deposits, but was soon after expunged..... 533

1834. The whole United States debt paid off.  
Lucifer matches first made in America.

FIRST SEWING-MACHINE.

Sewing-machine invented by Walter Hunt, of New York, with a curved eye-pointed needle and shuttle, making a lock-stitch; but he failed to perfect it or to get a patent for it.

- 1834-5. Remarkably cold winter all over the United States—snow falling in the Southern States one foot deep; orange and fig trees 100 years old were killed.

1835. The Cherokees sold their land to Government for \$5,200,000.

May.—New York *Herald* established by James Gordon Bennett.

July 6.—Death of Chief Justice Marshall, who had filled this high office nearly 35 years.

Renewal of war with the Seminole Indians, which lasted seven years longer, and cost the Government \$15,000,000. . . . . 533

Dec. 16.—Great fire in New York city; \$22,000,000 worth of property burned.

Illuminating gas first introduced into the city of Philadelphia.

First gold pens, with diamond points, made by Levi Brown, a Detroit watchmaker.

1836. Bequest of James Smithson to the United States, of \$515,169 for the "general diffusion of knowledge among men." The Smithsonian Institute at Washington was founded with the proceeds of this bequest.

June 28.—Death of James Madison, fourth President of the United States.

Nov.—Martin Van Buren elected President, and Richard M. Johnson Vice-President.

Dec. 15.—Burning of the General Post-office and Patent office at Washington.

Texas declared independent.

J. Q. ADAMS' GREAT DEBATE.

John Quincy Adams' eleven days' conflict for the right of petition, in Congress. Single-handed and alone Mr. Adams fought this great battle, and achieved for the American people a victory which should be commemorated while the nation has an existence.

Death of Aaron Burr.

Gen. Scott subdued the Creek Indians in Georgia.

GREAT FINANCIAL CRASH AND PANIC. 250 houses in New York stopped payment during the first three weeks in April. Failures in New Orleans in two days reached \$27,000,000. Eight States failed, and the United States could not pay its debts.

ORIGIN OF THE EXPRESS BUSINESS.

The express business originated in the United States with Wm. T. Harnden, a young man who carried parcels from New York to Boston in a satchel. He soon procured a trunk, and in a short time an "Express Office" was established in both cities, with messengers employed upon each steamer, which soon grew into an extensive and well-organized business. In the course of three years Mr. Harnden had also been instrumental in establishing an emigration system, which added to the wealth of the nation \$80,000,000.

1838. Duel between W. J. Graves and Jonathan Cilley, both Members of Congress. Cilley killed at third fire.

1838. Exploring expedition to the South Pole under the command of Capt. Charles Wilkes, of the United States Navy.  
United States Bank suspended specie payment, followed by the suspension of the majority of the banks in the United States, causing a great panic.  
Mormon war in Missouri.
1839. Great political excitement. The Whigs nominate Wm. Henry Harrison for President, which introduced the "Log Cabin Campaign."

## FIRST STEAM FIRE-ENGINE.

1840. John Ericsson, a Swedish engineer, perfected the first steam fire-engine in the United States, for which he received the great gold medal from the Mechanics' Institute. He had been in this country but one year at the time. Mr. Ericsson planned and superintended the building of the first "Monitor," at Greenpoint, N. Y., which at its first trial disabled the iron-clad ram "Merrimac."

Adams' Express Company founded.

- Nov.—Gen. Harrison elected President, and John Tyler Vice-President.
1841. March 4.—Inauguration of Gen. Harrison as President.  
April 4.—Death of William Henry Harrison, the ninth President of the United States.  
April 6.—Inauguration of John Tyler as President..... 536  
Webster's Dictionary appeared.

Upper and Lower Canada united in one Government.

Imprisonment for debts due the United States abolished.

New York "Tribune" established by Horace Greeley.

Bunker Hill monument completed; great celebration.

1842. Attempts to re-establish a National Bank vetoed by the President..... 537  
Dorr's rebellion in Rhode Island in support of a new Constitution and the rights of suffrage. It was soon put down.

Mormonism became prominent and received large accessions to its numbers.

Aug. 9.—Treaty of Washington negotiated by Daniel Webster and Lord Ashburton, defining our north-eastern boundary, and for suppressing the slave trade and giving up fugitive criminals. This closed the Aroostook war.

## FREMONT'S EXPEDITION.

Fremont made his first expedition to the Rocky Mountains. He explores the Great West, and discovers the South Pass, that wonderful gateway to the golden shores of the Pacific.

Thomas Kingford produced his first sample of pure corn starch. His great starch factory at Oswego now produces 21,500,000 pounds annually, or 35 tons a day. Average number of workmen 700.

First mutiny in the United States Navy instigated by Midshipman Spencer, son of a United States Cabinet officer, on board the United States brig-of-war *Somers*, Capt. A. S. McKenzie. Spencer and his comrades were hung to the yard arm,

1843. Congress voted \$30,000 to Samuel F. B. Morse to establish his telegraph lines—first in the world.

Fremont extended his expedition to the Columbia River, Oregon, and from that point up the Willamet Valley to Klamath Lake, pushing on through snow and cold, over granite peaks and through deep ravines, without trail, and March 6, 1844, he reached the southern slope of the Sierras.

GREAT COMET OF 1843.

1843. March.—Sudden appearance of a great comet, probably the most marvelous of the present age. It was seen in the daytime, before it was visible at night, and startled the country by its sudden and brilliant advent. Many regarded it as a sign of the coming end of the world, and others of revolution or war. It was visible to the naked eye for weeks, when it suddenly disappeared.

Death of Noah Webster, author of the Dictionary.

1844. Feb. 28.—Explosion of the "Peacemaker," a large gun on board the *Princeton*, killing the Secretary of State, Abel P. Usher, and Secretary of the Navy, Thomas W. Gilmer. . . . . 537

First telegraph line stretched from Washington to Baltimore. The first message sent, "*Behold what God hath wrought.*"

First anti-slavery candidate nominated for President, James G. Birney, of Michigan, who received 170 votes.

James K. Polk elected President and Geo. M. Dallas Vice-President. . . 538

MORMON WAR.

Mormon war in Illinois. Murder of Joseph Smith, the Mormon Prophet, and selection of Brigham Young to fill his place.

Copper excitement in Michigan.

Election of Polk announced by telegraph, the first news item conveyed over the wires.

1845. Lake Superior copper mines opened, one of which—the Calumet and Hecla—yielded in 1872, 8,000 tons of pure copper, worth \$500 per ton.

HOWE'S SEWING-MACHINE.

Elias Howe produced his first sewing-machine.

Files first made in the United States.

Aug.—Gen. Zachary Taylor advanced with 4,000 soldiers to Corpus Christi, the western boundary of Texas. . . . . 539

First negotiation relating to the annexation of Santo Domingo, a Democratic measure which had in view the acquisition of slave territory in the West Indies to balance the increase of free States in the North.

June 8.—Death of Andrew Jackson, seventh President of the United States.

Free Soil party originated. Watchword, "Free soil for a free people."

MEXICAN WAR.

1846. March 23.—Gen. Taylor marched with 3,500 men to the Rio Grande. He built a fort directly opposite Matamoras, the headquarters of the Mexicans.

The Mexicans ordered him to retire to the river Nueces within twenty-four hours, or "arms and men alone must decide the question." . . . . . 539

Fremont, Kearney, and Stockton, with a handful of men, took possession of California, holding it till the close of the Mexican war.

The Mexicans captured Col. Cross, who was riding outside the American lines, and murdered him, beating out his brains with the butt of a pistol.

Capt. Thornton, with a small body of dragoons, went in search of him, and was attacked and the whole party killed. This was the first blood shed in the Mexican war.

1846. May 8.—Battle of Palo Alto, on the Rio Grande. The American forces numbered but 2,000 men, who fought against 6,000 Mexicans and forced them to retreat. American loss forty-seven wounded and nine killed. Major Samuel Ringgold among the number.

May 9.—Another battle fought at Resaca de la Palma. The Mexicans again outnumbered the Americans three to one, and the Americans gaining the victory, which was due to the bold and daring charge of Capt. May, who took their battery and captured their commanding officer, Gen. La Vega. 540

July 28.—New tariff bill passed.

Aug. 3.—President Polk vetoed the river and harbor bill.

Aug. 6.—Revolution in Mexico in favor of Santa Anna.

Congress authorized the President to accept of 50,000 volunteers, 300,000 offering their services.

May 13.—Proclamation of war with Mexico.

Aug. 8.—The President called upon Congress for \$3,000,000 to negotiate a treaty with Mexico.

The "Wilmot proviso" against the extension of slavery passed the House, but not the Senate.

Three hundred buildings and other property burned in Louisville, Ky.

Aug. 18.—Gen. Kearney took possession of Santa Fe, New Mexico, without a blow, having marched from Fort Leavenworth, a distance of 900 miles.

Aug. 19.—Commodore Stockton blockades the Mexican ports on the Pacific.

Sept.—Gen. Taylor advanced to Monterey with 6,000 troops. The city was strongly fortified and garrisoned with 10,000 men.

#### SURRENDER OF MONTEREY.

Gen. Worth crossed the mountains in the rear of Monterey, took the fortified heights, and reached the walls of the city, cutting off its supplies.

Sept. 23.—Gen. Taylor made the grand attack, and the city soon surrendered, under Gen. Ampudia.

Gen. Taylor granted an armistice of eight days, expecting the Mexicans to propose peace.

Sept. 26.—California expedition, with Col. Stevenson's regiment of 780 officers and men, sails from New York.....540

Oct. 25.—Tobasco, Mexico, bombarded by Commodore Perry.

Oct. 30.—Gen. Wool arrived in Mexico with 3,000 troops of volunteers, whom he trained on the march over deserts and mountains.

Nov. 14.—Commodore Connor takes Tampico.

Dec. 6.—Gen. Kearney defeats the Mexicans at San Pasqual.....541

Dec. 25.—Col. Doniphan defeats the Mexicans at Brazito, near El Paso.

Gen. Taylor advanced to Victoria, where he learned that Santa Anna was approaching with 20,000 men. Just on the eve of a battle, Gen. Taylor received the word that he was superseded by General Scott, who was *en route* for Mexico, and who called for the "flower of his army."

General Taylor sends a courier to Gen. Wool, asking him to hasten to his aid, and in two hours the General was on his way to Victoria.

Bombardment of the Mormon city of Nauvoo, Ill., and the exit of the Mormons at the point of the bayonet.

Louis Agassiz visited the United States to deliver a course of lectures in Boston, and to study the geology and natural history of this country.

1847. Jan. 8-9.—Battles of San Gabriel and Mesa, in California, under Gen. Kearny. The enemy were defeated.
- Jan. 8.—Mexican Congress resolved to raise \$15,000,000 on the property of the clergy to carry on the war.
- Jan. 14.—Revolt of the Mexicans in New Mexico against the United States authorities.
- Jan. 24.—Battle of Canada, in New Mexico—Americans under Col. Price are victorious.
- Feb. 22-23.—Battle of Buena Vista, by Gen. Taylor, aided by Gen. Wool. The Mexicans were led by Santa Anna with greatly superior numbers, but the Mexicans were obliged to retreat and yield the victory to inferior numbers, but superior generalship. . . . . 541
- Feb. 28.—Battle of Sacramento. -Col. Doniphan, with 924 Americans, defeated 4,000 Mexicans.
- March 1.—Gen. Kearney declares California a part of the United States 542

## CAPTURE OF VERA CRUZ.

Mar. 29.—Vera Cruz taken by Gen. Scott and Commodore Perry with army and fleet. This was considered, with the exception of Quebec, the most strongly fortified city in America.

April 2.—Alvarado taken by Lieut. Hunter.

April 18.—Battle of Cerro Gordo fought. Santa Anna was strongly intrenched with a large army. Lee and Beauregard engineered the mountain attack while the army in front simultaneously opened fire upon them. The Mexicans abandoned their works and beat a hasty retreat.

Tuspan taken by Commodore Perry.

## LYNCH'S EXPEDITION TO THE RIVER JORDAN AND THE DEAD SEA.

May.—Lieut. W. F. Lynch, of the United States Navy, made an application to the Hon. John Y. Mason, the head of the Navy Department, for permission to circumnavigate and thoroughly explore the lake Asphaltites, or Dead Sea. After some delay a favorable decision was given to his application. The United States storeship *Supply* was placed under his command, and was laden with stores for the American squadron in the Mediterranean. She also carried two metallic boats, one of copper, the other of galvanized iron, for the use of the expedition. The members of the expedition were fourteen in number. The ten seamen shipped to serve as crews of the boats were of temperate habits, all of them having pledged themselves to abstain from all intoxicating drinks.

The expedition set out from New York, November 26, 1847. After stopping at Port Mahon, the *Supply* on February 16th anchored before Smyrna. Thence Lieutenant Lynch proceeded to Constantinople, where, by the influence of Mr. Carr, the United States resident Minister, an audience of the Sultan was granted, and a firman procured, giving permission to explore the Dead Sea and the River Jordan. From Constantinople he returned to Smyrna, and thence proceeded to Beirut and Acre. On April 1, 1848, the party pitched their tents on the south bank of the Belus, having parted from the storeship *Supply*, which now stood out to sea. The expedition directed its route toward the Sea of Galilee, or Tiberias, as the first point in their tour of observation.

Lieutenant Lynch, in order to transport his baggage and boats to navigate the inland seas, made the novel experiment of substituting camels for draught-horses, which proved successful. Having mounted his boats on low-wheeled carriages or trucks, three of these huge animals were attached to each carriage, two abreast and one as leader. The first attempt to draw

1847. the trucks by camels was witnessed by an eager crowd of people. The successful result taught them the existence of an unknown accomplishment in that patient and powerful animal, which they had before thought fit only to plod along with its heavy load upon its back. On the 4th of April they took up their line of march, following the boats with sixteen horses, eleven loaded camels, and a mule. The party numbered sixteen in all, including the dragoman and cook. They were accompanied by fifteen Bedouins, all well mounted. The metal boats, with flags flying, rattling and tumbling along, mounted on carriages drawn by huge camels, the officers and mounted sailors in single file, the loaded camels, the sheriff and Sheikh with their tufted spears—all had the appearance of a triumphal march. On the 6th of April the party reached the Sea of Galilee. "Unable to restrain my impatience," says Lieut. Lynch, "I now rode ahead with Mustafa, and soon saw below, far down the green sloping chasm, the Sea of Galilee, basking in the sunlight! Like a mirror it lay embosomed in its rounded and beautiful, but treeless hills. How dear to the Christian are the memories of that lake, the lake of the New Testament. . . . The roadside and the uncultivated slopes of the hills were full of flowers, and abounded with singing birds; there lay the holy lake, consecrated by the presence of the Redeemer! . . . . Near by was the field where, according to tradition, the disciples plucked the ears of corn upon the Sabbath day; yet nearer was the spot where the Saviour fed the famishing multitudes, and to the left the mount of Beatitudes. . . . Not a tree! not a shrub! nothing but green grain, grass, and flowers, yet acres of bright verdure. . . . Beyond the lake and over the mountains, rise majestic in the clear sky the snowy peaks of Mount Hermon."

On the 8th of April, having arrived at Tiberias, the two boats, after some difficulty in getting them down the mountain, were launched into the Sea of Galilee with their flags flying. "Since the time of Josephus and the Romans, no vessel of any size had sailed upon this sea, and for many, many years, but a solitary keel had furrowed its surface." In order to assist the transportation of his goods, Lieutenant Lynch purchased the only boat used by the misgoverned and listless inhabitants to navigate the beautiful lake of Tiberias, a lake which was filled with fish and abounding with wild fowl. This boat was purchased for about twenty-one dollars, and was used by the inhabitants merely to bring wood from the opposite side of the lake. On the 10th of April the expedition started from the foot of the lake, and commenced the descent of the river Jordan. Notwithstanding the most diligent inquiry at Tiberias, they could not procure any reliable information respecting the river. They found, to their consternation, that the Jordan was interrupted in its course by frequent and fearful rapids. In some instances they had to clear out old channels, to make new ones, and sometimes plunged with headlong velocity down appalling descents. So great were the difficulties in passing down the river, that on the second evening they were but twelve miles in a direct line from Tiberias. So tortuous is the course of the Jordan, that in a space of sixty miles of latitude, and four or five of longitude, it traverses at least two hundred miles! On the 18th of April they reached the Dead Sea, and found its northern shore an extensive mud-flat, with a sandy plain beyond, and the very type of desolation. Branches and trunks of trees lay scattered in every direction; some charred and blackened by fire, others white with an incrustation of salt. The waters of the sea they found a nauseous compound of bitters and salt. As they passed on, they found scenes "where there was no vegetation whatever; barren mountains, fragments of rocks blackened by sulphurous deposits, and an unnatural sea, with low, dead trees upon its margin, all within the scope of vision bore a sad and sombre aspect."

1847. Near the southern extremity of the Dead Sea, the water became very shallow, from one to two fathoms deep. When near the salt mountain of Usduin, or Sodom, they were astonished at the appearance of a lofty round pillar, standing apparently detached from the general mass, at the head of a deep, narrow, and abrupt chasm. "We immediately pulled in for the shore," says Lieut. Lynch, "and Dr. Anderson and I went up to examine it. The beach was a soft, slimy mud, incrusting with salt, and a short distance from the water covered with saline fragments and flakes of bitumen. We found the pillar to be of solid salt, capped with carbonate of lime, cylindrical in front and pyramidal behind. The upper or rounded part is about forty feet high, resting on a kind of oval pedestal, from forty to sixty feet above the level of the sea. It slightly decreases in size upward, crumbles at the top, and is one entire mass of crystallization." A similar pillar is mentioned by Josephus as having been seen by him, and he in his History expresses the belief of its being the identical one into which Lot's wife was transformed. While passing over and encamping on the borders of this remarkable sea, the figures of each one of the expedition assumed a dropsical appearance. The lean had become stout, and the stout almost corpulent; the pale faces had become florid and ruddy; moreover, the slightest scratch festered, and the bodies of many of the party were covered with small pustules. The men complained bitterly of the irritation of their sores, whenever the acrid water of the sea touched them: still all had good appetites, and they hoped for the best. On the 2d of May the party made an excursion to Kerak, containing a population of about 300 families, of whom three-fourths professed Christianity. They found these Christians, though impoverished and oppressed, as kind and obliging as the Moslems were insolent. On the 10th of May they left the Dead Sea, after spending twenty-two days in its exploration. "We have," says Lieutenant Lynch, "carefully sounded this sea, determined its geographical position, taken the exact topography of its shores, ascertained its temperature, width, depth, and velocity of its tributaries, collected specimens of every kind, and noted the winds, currents, changes of every kind, and all atmospheric phenomena. . . . The inference from the Bible, that this entire chasm was a plain sunk and 'overwhelmed' by the wrath of God, seems to be sustained by the extraordinary character of our soundings. . . . We entered upon this sea with conflicting opinions. One of the party was sceptical, and another, I think, a professed unbeliever of the Mosaic account. After twenty-two days' close investigation, if I am not mistaken we are unanimous in the conviction of the truth of the Scriptural account of the destruction of the cities of the plain." After leaving the Dead Sea, the party proceeded toward Jerusalem, where they arrived on the 17th of May. After visiting various places of interest in and about the city, they proceeded to Jaffa. From Jaffa they went to Acre, in two parties—one under the command of Lieutenant Lynch, in an Arabian brig; the other by the land route, under the command of Lieutenant Dale. From Acre they went to Nazareth, Nain, Mount Tabor, Tiberias, Bethsaida, to the source of the Jordan, and thence to Damascus and Beirut. As they approached the latter place, many of the party sickened; and on the 25th of July Lieutenant Dale died at a village in the vicinity of Beirut, at the house of the Rev. Mr. Smith, of the American Presbyterian mission. From Beirut they proceeded to Malta, where, on the 12th of September, the *Supply* being ready, the expedition re-embarked for the United States, and arrived there early in December.

Aug. 20.—Battles of Contreras and Churubusco. . . . . 546

Sept. 13.—Storming of the citadel of Chapultepec. . . . . 546

" 14.—The American army enters the City of Mexico, carrying every post and fortification, sweeping every obstacle before them. Night alone

1847. saved the total destruction of Santa Anna's army, as under the cover of darkness the Mexicans fled, and at sunrise the American army entered the city, and the Stars and Stripes were soon floating above the Halls of the Montezumas .....547
- Sept. 13 to Oct. 12.—Siege of Puebla, held by the Americans against the Mexicans. The Mexicans were repulsed by Gen. Childs.....547
- Oct. 9.—Huamantla taken by the Americans under Gen. Lane.
- Dec. 31.—The several Mexican States occupied by the American army placed under military contributions.
- War with Mexico ended.

## SPIRIT RAPPINGS.

- Great excitement at Rochester, N. Y., and surrounding country caused by mysterious knocks, noises, and peculiar and strange demonstrations. The first appearance of these knockings was at Arcadia, Wayne County, N. Y. The family where they first made their appearance fled from the house, and it was afterward occupied by Mr. John Fox. His daughters were the first mediums through which this mysterious agency professed to communicate.
1848. Feb. 21.—Death of John Quincy Adams, sixth President of the United States.
- Feb. '2.—Treaty of Guadalupe Hidalgo, by which New Mexico and Upper California were ceded to the United States, and the western boundary of Texas fixed at the Rio Grande. This war cost the United States nearly 25,000 men and \$160,000,000.
- Feb. 18.—Gen. Scott relinquishes the command of Mexico to Gen. Butler.

## GOLD DISCOVERED IN CALIFORNIA.

May.—Gold discovered in California, at Sutter's Mill, near Sacramento, by James Marshall. The news soon spread over the State, and great excitement prevailed. All classes rushed to the mines. Ships were deserted by their crews. Soon the whole world was electrified by the report that a new Golconda had been discovered. Thousands rushed to the new gold fields from every State and from almost every civilized country. In a little over a year California had a sufficient number of inhabitants to entitle its admission as a State. The city of San Francisco grew up like "Jonah's Gourd." Its streets were soon thronged with daring and reckless adventurers from all parts of the world. Gambling became the daily pastime of the idle and the successful miners, and murder was of almost daily occurrence. Vigilance committees were appointed, and for five years justice was administered in this manner with telling effect. In 1856 law and order was established, and for many years California flourished, and was the great El Dorado of the West in point of mineral wealth, agriculture, and general prosperity .....549

## PERFECTIONISTS.

*The Oneida Community*, in the State of New York, another Socialist order, was established, also a branch at Wallingford, Ct. This is a religious community of very peculiar ideas, among which are "personal holiness," "complex marriage," "community of goods," etc. They are a very industrious and peaceable community, and in point of wealth are a success. But they number, after nearly thirty years' experiment, less than four hundred members.

- Missouri Compromise repealed.....553
- Zachary Taylor and Millard Fillmore were elected President and Vice-President.

1848. Corner-stone of Washington Monument laid.  
Dec. 8.—First deposit of California gold in the mint. Great rush for California.
1849. *Visit of Father Mathew*, the Catholic Apostle of Temperance, to the United States. 600,000 are converted to total abstinence principles through his labors.

President Taylor issues a proclamation against the Cuban filibusters.

Cholera again visited the United States, spreading far and wide; the victims in St. Louis and Cincinnati numbering 6,000 each.

Great riot at the Astor Place Opera House, instigated and led by the friends of Edward Forrest, the great American tragedian, upon the attempt of Macready, the eminent English actor, to play upon the boards of that theatre.

Great fire in St. Louis. \$3,000,000 lost.

United States gold dollar first coined.

Parliament House in Montreal, Upper Canada, burned down by a mob.

Constitution forbidding slavery adopted for California.

June 15.—Death of James K. Polk, eleventh President of the United States.

1850. March 31.—Death of John Caldwell Calhoun, an eminent American statesman of South Carolina.

#### OREGON MARKET FOR GIRLS.

Congress passed the Donation Law, giving every *bona fide* settler of Oregon 320 acres of land; also, giving the same amount to a wife, upon conditions of settlement upon it within a given time and remaining four years. Very soon nearly all the girls over fourteen years of age were married off, and old maids were scarce in Oregon.

#### UNCLE TOM'S CABIN.

"Uncle Tom's Cabin," a novel written on slave-life in the South, and published in the *National Era*. This book caused great excitement all over the North, and was extensively read in the South. It was translated and sold in every civilized country on the globe, and was probably the most popular and sensational novel ever written.

Watches were first made by machinery in the United States at Roxbury, Mass., by Denison & Howard.

#### FUGITIVE SLAVE LAW.

Passage of the notorious "*Fugitive Slave Law*," introduced by Henry Clay in his great "*Omnibus Bill*." This law made every foot of free soil upon this broad Republic a hunting-ground for slaveholders to hunt fugitives who had escaped from a life of slavery. And every citizen who aided or harbored fugitives was subject to fines and punishment.

July 9.—Death of Zachary Taylor, twelfth President of the United States.

Grinnell Expedition to the Arctic Seas, under command of Lieut. E. J. De Haven, Dr. E. K. Kane accompanying the expedition as naturalist and surgeon.

#### JENNY LIND.

Sept. 12.—Jenny Lind, the "*Swedish Nightingale*," gave her first concert in the United States at Castle Garden, New York. The receipts were about \$30,000, and the enthusiasm exceeded anything ever witnessed at a public concert or dramatic entertainment in the United States. She gave one hundred concerts

1850. under engagement and direction of P. T. Barnum, in all the large cities of the Union, involving nearly a million dollars in total receipts. The first ticket for her New York concert was purchased by Genin, the latter, for which he paid \$225. The proceeds of this concert were devoted to charitable objects. Ossian E. Dodge paid \$625 for a ticket in Boston. The highest price paid for a ticket to any of her concerts was \$650 by Col. Wm. C. Ross, of Providence. During her stay in Washington she was visited by the chief and eminent men of the land, and the most distinguished honors were paid her in every city that she visited. When Jenny Lind bade adieu to America, she bore the hearts of the American people with her. Never before had prima donna, or queen of song, so thoroughly captivated the whole nation, as did this plain, simple Swedish maiden with her pure, sweet nature, and her unparalleled gifts and sweetness of voice and heart.
1851. April.—Erie Railroad completed.  
 July 4.—Corner-stone of Capitol extension laid, Daniel Webster delivering the oration.  
 Return of the Grinnell Arctic Expedition. Dr. Kane reported having discovered an open polar sea.  
 Reign of Vigilance Committees in California, which proved effectual in checking crime and restoring order and public safety to the citizens.  
 A panic, caused by false alarm of "fire," occurred in a New York public school, containing 1,800 pupils. Nearly 50 children were instantly killed by suffocation, and many seriously injured by jumping from windows, and from fright.  
 June 29.—Death of Henry Clay, an American statesman and orator of great ability and renown.
1852. Oct 24.—Death of Daniel Webster, LL.D., an American statesman of great renown.  
 First street railway in New York.  
 Whig Convention in Baltimore.  
 Gen. Winfield Scott nominated for President, and Mr. Graham, of North Carolina, Vice-President.....550  
 Aug.—Free Soil Convention in Pittsburg, nominated John P. Hale for President, and George W. Julian, of Ind., Vice-President.....550
1853. March 4.—Franklin Pierce inaugurated President.
- TREATY WITH RUSSIA.
- Treaty with Russia guaranteeing neutrality of the United States in the war of the allied powers of Europe against that power, and recognizing the property right of neutral nations wherever found..... 551  
 Exploration for a Pacific Railroad.
- KNOW-NOTHINGS.
1854. American or Know-Nothing Society formed, which carried the elections in nearly all the Northern States, their watchword being, "Put none but Americans on guard." "Let Americans rule America."  
 Prohibition law passed in New York and Pennsylvania..... 552  
 Feb. 28.—American mail-steamer *Black Warrior* seized at Havana.  
 March 31.—Commercial treaty between United States and Japan signed. 551  
 Stephen A. Douglas' popular sovereignty or Kansas-Nebraska Bill passed, which caused great excitement in Congress and all over the country.....552

1854. Virtual repeal of the Missouri Compromise . . . . . 553  
 " First railroad from Lake Michigan to the Mississippi—the Rock Island.  
 1855. Completion of Niagara Suspension Bridge.  
 1855. Great emigration to Kansas. Opposition Governments were formed by the pro-slavery and anti-slavery parties. Election riots ensued. . . . . 552  
 July.—Dispute with Great Britain concerning the attempt to recruit for the Crimean army.  
 Sept. 7.—First Hebrew Temple in the Mississippi valley consecrated at St. Louis.  
 Oct. 17.—The bark *Murray* seized at New York on suspicion of being intended for the Russian war service—discharged the 19th.  
 Oct. 24.—Snow in Louisville, Ky., and Nashville, Tenn.  
 Dec. 23.—British discovery ship *Resolute*, abandoned in the Arctic Sea by her crew, was brought to New London, Ct., by a whaler.

HOOSAC TUNNEL.

1856. Hoosac Tunnel begun. This tunnel is one of the grandest achievements in modern engineering. It is cut through the Hoosac Mountain, near the town of Adams in the north-western part of Massachusetts; and—except the Mt. Cenis Tunnel through the Swiss Alps—is the longest tunnel in the world, being 4 3-4 miles long, and in its widest point 26 feet, and 24 feet high, and admits of two lines of railroad trains. It is on the Troy and Greenfield line, and was begun by that railroad, and in 1854 the State passed an Act authorizing a loan of the State credit to enable them to complete it. In 1862 the State assumed the entire responsibility and control of the project.

John Brown's victory at Ossawatimic.  
 Ocean telegraph projected.

Republican party established. There were three parties in the Presidential campaign, Democratic, Know-Nothing, and Republican (or Free Soil).

Feb.—Contest for *Speaker* of the House of Representatives, lasting two months, settled by placing Nathaniel P. Banks, of Massachusetts, in the chair.  
 April 11.—Great bridge across the Mississippi at Rock Island completed.

ASSAULT UPON SUMNER.

May.—Brutal assault of Preston S. Brooks upon Charles Sumner in the Senate Chamber, occasioned by his speech, "Crime against Kansas."

First wood-type made by machinery by Wm. H. Page.

President Pierce, in his message, declared the creation of a free State Government in Kansas an act of rebellion. . . . . 552

May 28.—Dismissal of Mr. Crampton, the British Envoy at Washington, by our Government. . . . . 552

June 17.—First nominating Republican Convention held at Philadelphia. John C. Fremont chosen for President, and William L. Dayton, Vice-President. The two important planks in the new platform being anti-slavery and anti-polygamy. . . . . 552

July.—The safe of the American Express Company, which was lost on the steamer *Atlantic* in 1852, raised by a Buffalo diver. Its contents were well preserved.

Aug. 10.—Lost Island, a summer resort on the Louisiana coast, submerged during a violent storm of three days; 173 persons were lost.

Aug. 21.—Famous Charter-oak at Hartford blown down.

1855. Dec.—The *Resolute* purchased from its discoverers, and refitted by the United States, is presented to the British Government, at Portsmouth, England, by Capt. Hartstein, on behalf of the United States.
1857. Organization of the Fenian Brotherhood under the name of the Emmett Monument Association.
- March 4.—James Buchanan inaugurated President, with John C. Breckenridge for Vice-President. . . . . 552

## DRED SCOTT DECISION.

March 6.—The famous Dred Scott Decision, by Chief Justice Taney, was made known; a passage in which these words found expression, "Slaves have no rights which the white man is bound to respect," and which were generally attributed to that document for their origin, but which the defenders of Judge Taney claim was but a quotation of the sentiments of the people at the time the constitution was written. . . . . 553

First attempt to lay the Atlantic Cable. It was coiled upon two vessels, the United States steamship *Niagara* and the British steamer *Agamemnon*. They proceeded to mid-ocean, and each vessel sailed toward its respective country, laying the cable. After the wire had twice broken, the attempt was abandoned, but renewed again, the end being fastened at Valencia Bay, and payed out again till exhausted, when the other vessel joined the wires and completed the enterprise. This cable worked well for a time, but was finally abandoned.

## GREAT FINANCIAL CRISIS.

A great and extensive financial "crash," caused by wild speculation, extravagance, and "stock gambling." The terrible effects of this "crisis," were felt the whole length and breadth of the land. The rich were ruined by thousands, and great distress prevailed among the poor.

Foundering of the steamer *Central America* off Cape Hatteras. Over 400 lives and \$2,000,000 lost.

Trouble with the Mormons in Utah. Col. Johnston, with a military force sent out to enforce the laws.

## MEXICAN REVOLUTION.

- 1857-60. The Congress of Mexico adopted a Constitution and provided for a popular election. In July, General Comonfort was elected President. A military rebellion ensued, and the new President was driven from the capitol and General Zuloaga was appointed in his place. Meanwhile Juárez, the great Indian statesman, master-spirit and representative of Republicanism, who was also Chief Justice of the Supreme Court, and President *pro tem.*, according to the Constitution, proceeded to establish his Government at Vera Cruz. A reign of terror and outlawry ensued, and no foreign or American citizen was safe in Mexico. The Republicans at last triumphed and peace was restored.
1857. Sept. 15.—Brigham Young forbids any armed force entering Salt Lake City on any pretence; he orders the Mormon troops to hold themselves in readiness, and declares martial law.
- Sept. 26.—The Philadelphia banks suspend specie payments.
- Oct. 14.—New York banks suspend specie payments.
- Oct. 15.—Boston banks suspend specie payments.
- Dec. 12.—New York banks resume specie payments.
- Dec. 14.—Boston banks resume specie payments.

- 1837-8. Great religious revival, apparently the result of the "crash" in the business and financial world, the ruin of which was wide-spread. Daily prayer-meetings were held in every city and town.
1858. April 10.—Death of Thomas Hart Benton at Washington, aged 70.
- " April 30.—Congress passed a bill admitting Kansas into the Union, under the Lecompton (pro-slavery) Constitution. . . . . 553

EXCITING CAMPAIGN.

Lincoln and Douglas' campaign in Illinois. These popular competitors to a seat in the United States Senate made a tour of the State, ably discussing the merits of their respective parties. It was one of the most noted political campaigns upon record.

Jan. 14.—Governor Cumming, of Utah, pardons all treason and sedition heretofore committed in the territory.

William H. Seward announced his "Irrepressible Conflict" doctrine, which startled the country and aroused the pro-slavery element to much opposition.

Aug 3.—The people of Kansas voted to reject by an overwhelming majority the Lecompton Constitution. . . . . 553

Aug. 16.—First message sent across the Atlantic by cable from Queen Victoria to President Buchanan.

Sept. 13.—Duel between Hon. David Broderick, United States Senator from California, and Hon. D. S. Terry, Chief Justice of that State. Broderick was mortally wounded and died the 15th. Terry escaped on a steamer and landed in Sacramento.

Two American vessels captured by a Peruvian steamer by order of Castella.

1859. *The Fenian Organization* perfected under the native and efficient agency of John O'Mahoney, who became its "head center" in the United States.

Feb. 10.—Treaty between United States and Paraguay.

PETROLEUM.

First oil-well bored at Titusville, Pa., by Col. Drake, of New Haven, Conn., and during the 17 years following, the total yield from the Pennsylvania oil-wells was 55,461,319 bbls. of 40 gals. each.

Worcester's large Dictionary published.

JOHN BROWN'S CAPTURE OF HARPER'S FERRY.

Oct. 16.—Captain John Brown, a veteran Abolitionist, had long cherished a desire to liberate the negroes of the South from slavery. He had been a life-long enemy of the system, a radical anti-slavery man. He was in the Kansas battles for freedom, and participated in the battle of Ossawatimie, from which he derived the name of "Ossawatimie Brown." He had enlisted a few followers in his scheme of invading Virginia and freeing the slaves, and fully expected that his appearance among them would be a "watchword for freedom," and that, when the first blow was struck, they would unanimously rise and assert their liberty. His plans seem like those of an insane mind, more than those of a general, or an experienced statesman. With a little handful of men, of whom seventeen were whites and five colored, this mistaken philanthropist and fanatic invaded the State of Virginia, and succeeded in capturing the Government Armory buildings, containing a vast quantity of arms and ammunition, the railroad bridge, and taking prisoners the keepers of the Arsenal, the watchmen, and bridge-tenders. To the prisoners, who inquired as to the object of his proceedings, he answered: "To free the slaves." To the question by what authority it was done, he replied: "By the authority

1859. of God Almighty." Brown seemed to be impressed with the idea that God had chosen him to be the instrumentality in freeing the negroes from slavery. Soon the tidings spread, and an armed force appeared. They attacked the engine house where Brown and his associates were gathered, and were repulsed by the brave old man. Several were killed on both sides. Great excitement prevailed. Military companies arrived from different places.

The news spread to Washington, Baltimore, and Richmond, and produced the wildest excitement, and troops were instantly ordered to the scene of action. Col. Robert E. Lee, with a company of United States Marines and two field-pieces, was sent from Washington, and with their combined force Brown and his men were finally captured. He was greeted with execrations, and one of the Government officers struck him with a sabre several times in the face, which knocked him down, and another soldier ran a bayonet twice into the body of the prostrate old man. But he was protected from further violence by the soldiers. He was immediately indicted for treason and murder by the Virginia authorities. He asked for time, on account of his severe wounds, which was denied, and he was tried on the 26th of October in Charlestown, Va. Brown being unable to sit up, lay upon a mattress during his trial, which lasted three days. He was found guilty of the charges preferred, and sentenced to be hung on the 2d of December. On being asked why sentence should not be passed upon him, he replied, in a gentle and mild voice: "I deny everything but the design on my part to free the slaves. . . . That was all I intended. I never did intend murder, or treason, or the destruction of property, or to excite or incite the slaves to rebellion, or to make insurrection." His kind, gentle, and patient manner, and his sincere religious fervor deeply impressed even his enemies; and his great courage and bravery elicited the admiration of all who witnessed both his defense at the Arsenal and his manly fortitude during his trial. Governor Wise said of him: "He is a bundle of the best nerves I ever saw, cut and thrust, and bleeding in bonds. He is a man of clear head, of courage and fortitude, and simple ingenuousness. He is cool, collected, and indomitable, and inspired me with great trust in his integrity as a man of truth." Two of his sons were shot and eleven of his men were killed; four escaped and the rest were taken prisoners.

Upon the arrival of the hour for his execution he walked coolly and calmly out of the jail, his countenance radiant and his step elastic. A colored woman, with a child in her arms, stood near. He paused, and stooping, kissed the child. The colored people, as he passed, blessed him. His proud and manly bearing as he ascended the scaffold and calmly gazed about him, and his great courage and insensibility to fear, filled even the armed soldiers with amazement. His firmness and courage continued to the last. He died like a hero, winning the admiration of the military, the sheriff, the jailor, and the undertaker. The citizens were not permitted to witness his execution. His body was sent to his family at North Elba, N. Y., where an eloquent eulogy was pronounced by Wendell Phillips at the place of burial. . . . .553

#### KANSAS FREE.

Dec. 6.—An undisputed election was held in Kansas under the new Constitution, and Republican officers and Members of Congress elected. . . . .553

#### GREAT BONANZA MINE.

Comstock Lode originally discovered by James Fennimore, known as "old Finney," who, not knowing its value, sold it to P. Comstock for an old, bobtailed Indian pony and a quantity of whisky. Comstock himself being ignorant of the immense value of the lode, disposed of his entire claim for

1859. some \$4,000 or \$5,000, which property, in less than a year, sold for more than \$1,000,000. Under the management of Flood & O'Brien, it has since proved to be the richest silver mine in the world.

EMBASSY FROM JAPAN.

1860. Grand Embassy from Japan, with a treaty of peace and commerce, to the United States, being the first Ambassadors ever sent to any nationality by that empire. The Ambassadors were treated with great respect by the Government officials and the citizens of Washington. The peculiarity of their dress, customs, and manners excited much curiosity.

PRINCE OF WALES.

Tour of the Prince of Wales through the United States. He was everywhere received with marks of respect and distinction, and the unbounded hospitalities of the nation and people were extended to him.

Expedition of Charles Francis Hall to the Polar Sea in search of Dr. Franklin.

April 23.—Democratic Convention met at Charleston, S. C., to nominate candidates for the office of President and Vice-President. The delegates from the "Cotton States" withdrew, and the Convention adjourned to meet in Baltimore in June.....554

CHICAGO "WIGWAM."

May 19.—Republican Convention met in Chicago, in a vast building erected for the purpose, and called the "Wigwam," and nominated Abraham Lincoln for President, and Hannibal Hamlin, of Maine, for Vice-President.....554

The Constitution Union (late "American" party) also met in convention, and nominated John Bell, of Tennessee, for President, and Edward Everett, of Massachusetts, for Vice-President.....554

DOUGLAS' NOMINATION.

June 18.—Democratic Convention met, and Stephen A. Douglas was nominated for President, and Herschel V. Johnson for Vice-President.....554

June 18.—The same day the seceding delegates from the "Cotton States" nominated John C. Breckenridge, of Kentucky, President, and Joseph Lane, from Oregon, Vice-President.....554

June 28.—Arrival at New York of the English iron steamship *Great Eastern*, J. V. Hall, commander, being the largest vessel ever constructed since "Noah's Ark," and was capable of carrying 10,000 soldiers, besides her crew of 400.

Great agitation in Congress over a book entitled "The Impending Crisis," written by Hinton R. Helper, showing by arguments, statistics, and examples that slavery was injurious to the interests of the South.....554

Oct. 12.—Grand ball given in honor of the Prince of Wales at the Academy of Music in New York. It was the greatest affair of the kind ever known in this country. Over 3,000 of the *elite* present.

ELECTION OF LINCOLN.

Nov. 6.—Abraham Lincoln was elected President, with Hannibal Hamlin for Vice-President. Great excitement prevailed all over the Union. Universal rejoicing (with very few exceptions) at the North, and general dissatisfaction at the South. Threats of secession and fears of civil war caused great depression in business, and the Government credit was shaken.....554

1860. Dec. 3.—President Buchanan, in his Message, advised an amendment of the Constitution—1st, in favor of recognizing the rights of slave-holders to hold property in slaves where slavery does or may exist; 2d, in favor of their protection by Congress in this right in all the Territories until admitted as States; and 3d, in favor of the right of the master to capture his slaves who had escaped to another State—thereby attesting the validity of the *Fugitive Slave Law*. The Message further declares that unless this amendment was granted, the South would be justified in revolutionary resistance to the Government . . . . . 554

Great agitation was caused in Congress by this Message, both pro-slavery and anti-slavery members denouncing it. . . . . 554

#### SECESSION OF SOUTH CAROLINA.

Dec. 20.—Convention met in Charleston, S. C., which passed an ordinance of secession, and ordered the seizure of the Federal property within the limits of the State. . . . . 554

Dec. 21.—A Senatorial Committee of 13 met to consider the distracted state of the country, five of the committee being Republicans, five from the slave-holding States, and three Northern Democrats. The committee failed to agree. . . . . 554

Dec. 29.—Major Anderson, with a small band of Federal soldiers, transferred his command from Fort Moultrie, in Charleston Harbor, to Fort Sumter, the principal fort of defense. The remaining forts were immediately seized by the State authorities, and additional defenses were made to protect the city. . . . . 554

The Parrott gun introduced by Robert R. Parrott, and was extensively used during the war of the Rebellion.

#### SECESSION OF THE SOUTH.

1861. Jan. 9.—Mississippi joined the seceding States. . . . . 554  
 Jan. 11.—Florida passed a secession ordinance. . . . . 554  
 Jan. 11.—Alabama passed a secession ordinance. . . . . 554  
 Jan. 19.—Georgia united with the secession States. . . . . 554  
 Jan. 26.—Louisiana joined the seceding States. . . . . 554

#### FIRST ACT OF REBELLION.

Jan.—First overt act of the Rebellion was the firing upon the Government steamer *Star of the West* by the South Carolina State troops. . . . . 554

Feb. 1.—Texas joined the seceding States.

Feb. 4.—Peace Convention assembled in Washington. Delegates from all the Northern States assembled. . . . . 555

Feb. 4.—Delegates from the seceding States assembled at Montgomery, Alabama, and formed a new compact, called the "Confederate States of America," and established a Provisional Government, with Jefferson Davis as President and Alexander H. Stephens as Vice-President. . . . . 555

Abraham Lincoln, the President-elect of the United States, left his home in Springfield, Ill., amid the sorrowful and universal regret and secret forebodings of his friends, to repair to the capital of the nation, and enter upon the arduous duties of his office. . . . . 555

Feb. 8.—Jefferson Davis made President of the Confederate States. He raised troops and armed for war.

Feb. 22.—The President tarried in Philadelphia to plant the flag of the Union upon the Hall of Independence, but the gathering storm in Baltimore

1861. led his friends to fear for his safety, and he was persuaded to take the night train for Washington. He arrived safely at the capital the following morning.....553  
 Feb. 26.—West Virginia was admitted into the Union.....556

## INAUGURATION OF LINCOLN.

- March 4.—The inauguration ceremonies of President Lincoln were attended with the protection of the United States troops under Lieut-General Scott.555  
 Overtures for a peaceful separation from the South rejected by the North.  
 March 11.—The seceding States met at Montgomery and adopted a Constitution with slavery as the chief corner-stone.....555

## SEIZURE OF SOUTHERN PORTS.

The South seized the most of the defensive fortifications within their borders, some 30 in number, mounting over 3,000 guns, and costing \$20,000,000. Also the navy yard and arsenals were seized, together with the entire army of the frontier, with all its equipments, revenue cutters, mints, custom-houses, and sub-treasuries, amounting to \$20,000,000 more.....555

## SUMTER BOMBARDED.

April 12.—Bombardment of Fort Sumter. Gen. Beauregard opened fire from all the forts and batteries. Edmund Ruffin, of Virginia, a white-haired old man, fired the first gun. Maj. Anderson, with but a handful of men, and without an ounce of bread in store, bravely defended the old fort 34 hours, Capt. Doubleday firing the first gun. He received the unceasing fire from 47 heavy guns and mortars, throwing 2,360 shot and 980 shells into the fort, during which not a man was hurt. After the barracks had been burning for several hours, the magazine surrounded by fire and the main gates of the fort destroyed, Maj. Anderson surrendered the fort to the rebels, but only upon the most honorable conditions.....556

## LINCOLN CALLS FOR 75,000 TROOPS.

April 15.—President Lincoln issued a call for 75,000 troops to suppress the Rebellion in the South, and was answered by 300,000 volunteers eager to enlist.....556

## BLOCKADE PROCLAMATION.

April 17.—President Lincoln issued a proclamation announcing the blockade of the Southern ports.

April 17.—Virginia resolved to secede from the Union, and steps were taken to secure the Federal property.....556

## BALTIMORE MOB.

April 19.—The 6th Massachusetts Regiment, in passing through Baltimore, were fired upon by a secession mob; a company of the regiment returned fire, and 11 of the mob were killed and four wounded. Three of the soldiers were slain and eight wounded. Ten unarmed companies of the Philadelphia Washington Brigade were also attacked and retired to Philadelphia. This was the first blood shed in the Rebellion.

April 20.—Large amount of property at the navy yard and fort at Norfolk, Va., destroyed by the Union commander, Capt. McCauley, upon the approach of a rebel military force to seize it.....556

April 24.—The rebels occupy the fort and hoist their flag.....556

- 1861,            MARYLAND LOYAL.  
 April 27.—The Legislature of Maryland decided not to secede from the Union.....556

## COLONEL ELLSWORTH.

May.—Col. Ellsworth, a brave and efficient officer in command of the New York Fire Zouaves, was shot by Jackson while removing a secession flag from his hotel in Alexandria. Jackson was in turn shot by Frank E. Brownell, a Union soldier.....558

May 2.—Missouri turned over to the rebels the entire control of the military and pecuniary resources of the State.....557

May 3.—Government calls for 42,000 additional volunteers for three years, and ten regiments were added to the regular army.....556

May 4.—A large Union meeting held in Baltimore.

May 9.—Tennessee passed an ordinance of secession—East Tennessee voting largely against it.

Arkansas seceded from the Union.

May 10.—Capt. Lyon, aided by Col. Blair, at the head of 6,000 armed Union volunteers, surrounded the State Guard formed at Fort Jackson, in the interests of the Rebellion, and demanded its surrender, which was immediately complied with.....557

May 12.—Gen. Wm. S. Harney took command of the Union forces in Missouri. He entered into a compact with Gen. Price, the rebel leader, to restore peace to Missouri, which act was repudiated by the Federal Government, and he was replaced by Gen. Lyon.....557

May 13.—Gen. Butler occupied the city of Baltimore.....556

## WEST VIRGINIA REPUDIATES SECESSION.

West Virginia met in Convention, and formally repudiated the secession of the State.....556

May 16.—The rebels burn several bridges on the Baltimore and Ohio R. R.....557

May 20.—North Carolina passed a secession ordinance. Arkansas also resolved to secede and join the Confederates.....555

May 20.—The Arsenal at St. Louis was defended by its commandant, Gen. Lyon, and secured to the Government, and its contents transferred to Springfield, Ill.....557

## CONTRABAND.

May 22.—Gen. Butler took command of the Union forces at Fortress Monroe, composed of 15,000 raw recruits, but who proved gallant soldiers. Gen. Butler protected some fugitive slaves, and refused to surrender them to the order of their master, declaring all rebel property contraband.....558

May 24.—10,000 Union troops advanced into Virginia by order of Gen. Scott.

## FREMONT IN COMMAND.

General Fremont appointed to the command of the Western Department. He took vigorous measures to put down the Rebellion—confiscating the property of the rebels, also their slaves. For this he lost prestige with the War Department, and was shortly superseded by Hunter.

1861. Gen. Scott submits four courses of action to the President, from which he must choose. 1. To surrender to slavery half the territory acquired or to be acquired. 2. To blockade all revolted ports. 3. To say to the seceding States, "Wayward sisters, go in peace;" or 4. To conquer the South.
- June 1.—Gen. Patterson, with 20,000 men advanced from Chambersburg, Pa., to Hagerstown, Md. . . . . 558
- June 1.—The *Savannah*, a rebel privateer, captured a Union merchantman. . . . . 501

STEPHEN A. DOUGLAS.

June 3.—Stephen Arnold Douglas, an American statesman, died at Chicago. He began the practice of law at Jacksonville, Ill., and before he was twenty-two years of age was elected Attorney General of the State. In 1835 he became a Member of the Legislature; in 1837 he was appointed Register of the Land-Office at Springfield; in 1840 he was appointed Secretary of the State; in 1841 he was elected Judge of the Supreme Court of Ill.; in 1843 he was elected Member of Congress, and re-elected to a second term; in 1847 he was chosen United States Senator for the term of six years, which position he continued to hold until the time of his death; in 1852 he was candidate for President of the United States, and again in 1856, and received a nomination also again in 1860. In politics he was a Democrat. Mr. Douglas died in the midst of a splendid political career, and at the beginning of the great Civil war. He lived long enough to express the strongest feelings of loyalty to the Government, and a warm sympathy for its noble defenders in their struggle to maintain its Union.

June 11.—Battle of Romney, Va.

June 14.—Johnson evacuated Harper's Ferry.

June.—Gen. Price attacked Gen. Magruder, and after four hours' action, both sides retreated.

June.—Battle at Fairfax Court-House; the enemy driven out. . . . . 558

An attack upon the Confederate battery at Big Bethel repulsed. . . . . 558

July 4.—Congress met in special session.

" 5.—Battle near Carthage, Mo.

" 11.—Battle at Rich Mountain, Va.

" 18.—Battle near Centreville, Va.

BULL RUN DEFEAT.

July 21.—Battle of Bull Run. The North, impatient of delay, was crying, "On to Richmond." Gen. McDowell, with 30,000 troops, mostly volunteers, attacked the main body of the rebels at Bull Run. The recruits fought bravely, and the enemy were repulsed, but being reinforced by Jackson's brigade, they renewed the fight. The Union troops fought gallantly and gained the plateau, when the enemy were again reinforced by Joseph E. Johnston's army under Kirby Smith. The Union army now began a retreat, after thirteen hours of severe action, not having once been reinforced. Suddenly a strange panic seized them, and they fled in wild disorder, leaving everything behind them. In this battle the rebel Gen. T. J. Jackson received the name which he carried throughout the war—"Stonewall Jackson"—given him by one of his officers, who said, "There stands Jackson like a stone wall," facing the enemy while his army were preparing to retreat. . . . . 558

Destruction of the *Petrel*, a rebel privateer, by the United States frigate *St. Lawrence*. The *Petrel* sank at the first broadside of the *St. Lawrence*.

July.—Stonewall Jackson invaded Maryland. . . . . 558

1861. July.—Battle of Laurel Hill. Gen. McClellan, with Gen. Rosecranz, attacked the rebel forces under Generals Garnett and Pegram, driving them across the mountains to Monterey.....557
- Aug. 10.—Gen. Sigel repulsed and Gen. Lyon killed in battle at Wilson's Creek.....560
- Aug. 16.—Gen. Butler succeeded by Gen. Wool.
- “ 28.—Bombardment of rebel forts—Hatteras and Clark—by Gen. Butler.
- Aug. 29.—The forts surrendered by Com. Barron .....561
- “ 30.—Fort Morgan abandoned by the rebels.
- “ 31.—Fremont issues a proclamation freeing the slaves in Missouri.
- Sept. 3.—Massacre on Hannibal and St. Joseph Railroad; Platte bridge burned.
- Sept. 10.—Battle of Carnifex Ferry, between Generals Rosecranz and Floyd. A short, but severe action took place, resulting in the retreat of Floyd in the night.....557
- Sept. 13.—Rebel privateer *Judah* destroyed by the Federalists.
- Rebels twice defeated in attacks on Cheat Mountain, West Virginia. Col. John A. Washington, proprietor of Mount Vernon, killed.....558
- Sept. 20.—Col. Mulligan surrenders Lexington, Mo., to the rebel Gen. Price, after fifty-nine hours without water. Loss, 2,500 prisoners and a large amount of gold.
- Oct. 3.—Battle of Green Brier, Va. Rebels defeated with considerable loss.
- Oct. 5.—Rebels attack the Union troops at Chicocomaco, N. C., but were destructively shelled by the gun-boat *Monticello* and driven off.
- The *Savannah* captured by the U. S. brig *Perry*.....561
- Oct. 9.—Rebels repulsed by Wilson's Zouaves at Santa Rosa Island....561
- Oct. 11.—The rebel privateer *Nashville* ran the blockade at Charleston and burned an American merchantman in British waters.
- Oct. 12.—Repulse of the rebel ram and fireships by the Union fleet at S. W. Pass.
- Escape of Slidell and Mason from Charleston.
- Oct. 21.—Battle of Fredericktown, Mo. Jeff. Thompson's flight ....560
- Oct.—Lexington, Mo., recaptured by Union troops.
- Gen. W. T. Sherman appointed to the command of the Kentucky forces over Gen. Anderson.....560
- Oct. 21.—Battle of Ball's Bluff. Colonel Baker killed, and the Unionists defeated. The slaughter was fearful, and Gen. Stone was charged with inefficiency.
- Oct. 29.—Rebels defeated at Springfield, Mo., by Zagoniy.
- Nov. 1.—Soldiers' Aid Society formed at Detroit.
- “ 2.—Gen. Fremont superseded by Gen. Hunter, and his body-guard, composed of the best material and enlisted for three years, mustered out by Gen. McClellan.....560
- Nov. 6.—Gen. Grant attacked Gen. Polk, routing and burning his camp, capturing the guns, and driving the enemy to the river. Gen. Polk, reinforced, took possession of Columbus, and caused the retreat of Grant, who saved his arms. Union loss 400. Rebel loss 800.

1861. Nov.—Gen. Scott was placed on the retired list with full pay, and McClellan made General-in-chief ..... 562

MASON AND SLIDELL.

Nov. 8.—Capture of the rebel envoys, Mason and Slidell, on board the British steamer *Trent*, in the Bahama channel, by Capt. Wilkes, of the U. S. steamship *San Jacinto*. They were brought back to the United States and confined at Fort Warren, near Boston, but were finally surrendered to Great Britain by Secretary Seward, upon the illegality of the act—Capt. Wilkes' failure to bring the *Trent* into port for adjudication by the U. S. authorities.

Nov. 7.—Port Royal bombarded and taken by Gen. Sherman and Com. Du Pont.

Nov. 7.—Springfield, Mo., abandoned to the enemy by order of Gen. McClellan, much to the disadvantage of the Union forces in Missouri..... 560

Nov. 9. Gen. Nelson's victory in East Kentucky.

Nov. 9.—Gen. Schoepf's flight from E. Tennessee.

Battle of Belmont, Mo. Gen. Grant attacks the rebels, damaging them seriously.

Nov. 12.—Gen. Halleck appointed to the command of the Missouri Department.

Nov.—Raid of Price through Missouri, burning villages and destroying railroad tracks, and regaining Lexington and other points on the Missouri..... 574

Nov. 19.—Missouri passed an ordinance of secession.

Dec. 3.—Gen. Phelps lands on Ship Island with the advance of Gen. Butler's expedition.

Dec. 4.—John C. Breckenridge expelled from the United States Senate by a unanimous vote.

Dec. 6.—Beaufort taken by Gen. Sherman.

Dec. 15.—Gen. Pope routed the Confederates from Lexington, capturing 70 supply wagons and 300 prisoners..... 562

Dec. 17.—Stone fleet sunk to block up the mouth of Savannah River.

Dec. 17-18.—Col. Jeff. C. Davis captured a confederate camp at Milford, consisting of 3 colonels, 17 captains, 1,000 men, and 1,000 stand of arms, with tents, baggage and supplies.

The Confederates were now strengthened by a force of 5,000 Indians under Gen. Pike, making the division in S. Missouri 30,000..... 562

Gen. Pope defeats the rebels with great loss at Shawnee Mound, Mo.

Dec. 20.—Gen. Ord, commander of the 3d Pennsylvania Brigade, was attacked by the Confederate forces under Gen. Stuart. The enemy were defeated with a loss of 230 men. The Union loss being 9 killed and 60 wounded..... 563

Dec. 20.—Battle of Drainsville. Gen. McCall defeats the rebels.

Dec. 20.—Tybee Island, commanding the approach to Savannah, taken.

Dec. 21.—Charleston Harbor shut by sinking a stone fleet at its mouth.

Dec. 31.—Battle of Huntersville..... 558

Dec. 31.—United States forces to-day numbered 660,971 soldiers, 22,000 sailors, and 246 ships with 1,892 guns.

Dec.—Brig.-Gen. Grant led an expedition from Cairo to Belmont, a rebel encampment under Gen. Polk. Polk being reinforced, Grant retreated. .563

1861. Union steamer *Funny*, loaded with stores, captured by rebels. . . . . 561  
 Union forces attack the rebels on Croatan Sound by land and water, entirely routing them. The slaughter was immense on the rebel side, as there was no escape, being surrounded by the land and naval forces. . . 561
1861. Gatling Gun invented by Richard J. Gatling, of North Carolina.

## MINNESOTA MASSACRE.

1862. Indian massacre in Minnesota. The Sioux, under Little Crow, fell upon the white settlements at New Ulm, Yellow Medicine, Cedar City, Fort Ridgely, and Fort Abercrombie, and butchered, in the most cruel and shocking manner, some 500 persons, chiefly defenseless women and children. The citizens were unprotected, and their only escape was by flight. Great consternation ensued all through the Northwest, and troops were immediately sent to their rescue. The Indians in that district were finally subdued, and the leaders in the massacre were executed. . . . . 584

Jan. 1.—Fort Pickens breaches Fort Barancas and burns the navy yard.

Death of Lopez, President of Paraguay.

Gen. Sam. Ramon chosen President of Ecuador.

Jan. 8.—Battle of Blue Gap, Va. Rebels defeated.

Hospital boats were established on the Western rivers, and cars on the railroad landing from the seat of war.

Jan. 10.—Johnson and Polk, of Missouri, expelled from the U. S. Senate.

Jan.—Col. Garfield attacks the Confederates in S. E. Kentucky, and forces them to retreat to Virginia. . . . . 563

Jan. 19.—Gen. Geo. H. Thomas took command of the Union forces in Kentucky, with a force of 8,000 men. . . . . 563

Jan. 19.—Gen. Thomas was attacked by Gen. Geo. B. Crittenden. A desperate conflict raged, resulting in the retreat of Crittenden's army, with the loss of Gen. Zollicoffer and nearly 300 men. The rebels escaped through the night, leaving 12 guns and equipments, 1,500 horses, and all their army material. . . . . 563

Jan. 30.—Ericsson's *Monitor* launched at Greenpoint, L. I.

## CAPTURE OF FORT HENRY.

Feb. 6.—Com. Foote, with seven gun-boats, and Gen. Grant, with 15,000 men on steamboats, attacked Fort Henry and captured it.

Feb. 7-8.—Battle of Roanoke Island. Burnside takes the island, with 2,500 prisoners.

## FORT DONELSON SURRENDERED.

Feb. 16.—Surrender of Fort Donelson to Gen. Grant by Gen. Buckner, after 84 hours of fighting and watching, taking 13,000 prisoners, the fort being abandoned by General Floyd and Col. Forrest. . . . . 564

Feb. 18.—First regular Rebel Congress assembled at Richmond.

“ 19.—Col. Canby confronted by a band of Texas Rangers at Valverde, New Mexico. Upon the death of Lieut. McCrac and the loss of his battery, the Union infantry became demoralized and fled precipitately. . . . . 563

Feb. 21.—Gordon, the slaver, hung at New York.

“ 22.—Cumberland Gap abandoned to the Unionists, and a Confederate camp surprised and captured by Gen. Garfield. . . . . 563

1862. Feb. 22.—A general advance toward Richmond ordered by President Lincoln.....568

Feb.—At Coche, Ky., Gen. Curtis was attacked by a band of Texas cavalry, under General Albert Rush, which he routed after a short engagement, by an impetuous charge of 1st Indiana Cavalry. Gen. Curtis then marched to Helena, taking a large number of negroes whom the rebels had employed building roads, and who were entitled to their freedom.....562

Feb. 22.—Jeff. Davis inaugurated President of the Confederate States for six years.

Feb.—Retreat of Gen. A. S. Johnston from Bowling Green to Nashville before Gen. O. M. Mitchel, bringing consternation to the citizens of Nashville, hundreds of whom fled in terror from the city. Gen. Johnston continuing his flight South, and the Government and Legislature, also the bankers, with their specie, following.

Feb. 24.—Nashville surrendered to Gen. Buell, and Gen. Nelson and his troops took possession of the city.....564

March 3.—Columbus, Ky., abandoned by the rebels at the approach of Com. Foote and Gen. Sherman.....564

BATTLE OF PEA RIDGE.

March 7.—Battle of Pea Ridge, fought by Gens. Curtis, Sigel, Osterhaus, and Jeff. C. Davis, lasting three days, and resulting in the complete victory of the Union forces. The rebel forces were 30,000 strong under Gens. Price, Van Dorn, McCulloch, Slack, and McIntosh. The Federal loss was 1,351. Rebel loss not ascertained, but must have been much more. Gens. McCulloch and McIntosh killed, and Gens. Price and Slack wounded.....562

March 8.—The *Cumberland* and *Congress* destroyed by the rebel ram *Merrimac*.....568

March 9.—The *Merrimac* disabled and put to flight by the little *Monitor*, which also disabled the *Yorktown*.

Mar. 10.—Rebels evacuate Manassas Junction, and Union forces occupy it.

“ 13.—New Madrid evacuated by the Confederates, after a heavy cannonading by Gen. Pope, who took immediate possession. The enemy left thirty-three cannon, several thousand small arms, and a large amount of other war material.....564

March 14.—Battle of Newbern, N. C. Gen. Burnside defeats the Confederates, and occupies the city, capturing 69 cannon, two steamboats with large quantities of munitions, and 500 prisoners.....568

March 23.—Battle of Winchester, Va. Rebels badly defeated, losing 1,000 besides prisoners.

March 25.—Fort Mason occupied by Union forces.

“ —Soldier's Home opened at Cairo by the Chicago Branch Committee.

April 4.—Beginning of Peninsular campaign. Army of Potomac advance toward Yorktown.

BATTLE OF SHILOH, OR PITTSBURG LANDING.

April 6-7.—Surprise and attack of the Union army under Grant, Sherman, and Prentiss at Pittsburg Landing; their panic and retreat. Generals Buell and Lew Wallace come to the rescue, and the tide turned. The rebels were driven back to Corinth. Gen. Halleck taking command, he attacked the enemy at Corinth and gained possession of that important railroad center.

## ISLAND NO. 10.

1862. April 7.—Gen. Pope, having cut a canal twelve miles long across the Missouri peninsula opposite Island No. 10, attacked the rebel stronghold under Gen. McCown, who sunk the boats and transports, and escaped eastward, leaving Gen. McCall to surrender the Island, with 3 Generals, and 273 officers, 6,700 soldiers, 123 pieces of heavy artillery, 7,000 stand small arms, and a large quantity of ammunition and other stores reported in the capture. 564

April 11.—Surprise and capture of Huntsville, Ala., together with a large number of locomotives and cars, by Gen. O. M. Mitchel. At Russellville, Gen. Mitchel captured a large amount of Confederate property without loss.

April 11.—Fort Pulaski surrendered by the rebels after thirty hours' bombardment.

April 16.—Slavery abolished in District of Columbia.

" 17.—Bombardment of Fort Pillow by Commodore Foote, lasting two weeks, with little effect, owing to the high water, which prevented the co-operation of the land forces.....564

## FARRAGUT'S GREAT FEAT.

April 24.—Com. Farragut ran the batteries on the Mississippi River at Fort Jackson, destroying that fort and Fort St. Philip, also twelve Confederate gun-boats. He proceeds to New Orleans.

April 25.—Fort Macon, N. C., taken after eleven hours' fighting.

## SURRENDER OF NEW ORLEANS.

April.—Com. Farragut with his fleet approaches New Orleans. The Confederates burn their shipping and a vast amount of property—15,000 bales of cotton, and vessels richly freighted with merchandise—estimated at from \$8,000,000 to \$10,000,000. But the city made no resistance, and surrendered to the American fleet.

April 29.—Gen. Mitchel defeats the rebels and captures Bridgeport, Ala.

May 1.—Arrival of Gen. Butler in New Orleans. He takes possession of the city, marching through the principal streets, from the Levee to the Custom-House, to the tune of "Yankee Doodle," viewed by 50,000 rebels with mingled feelings of curiosity and defiance.....567

May 4.—McClellan enters Yorktown, the rebels having fled in the night.

" —Fight between rebel ram *Mallory* and the Union gun-boat *Cincinnati*; both vessels disabled and sunk; the rebels retreating under cover of smoke from the burning gun-boats which the *Cincinnati* fired before sinking.

May 5.—Battle of Williamsburg between Gen. Hooker and Gen. Magruder. Rebels evacuate in the night.

May 7.—Battle of West Point, Va. Rebels driven over Chickahominy.

" 8.—Skirmish at Bull Pasture Mt. between Generals Schenck and Milroy on the Union side, and Johnston and Jackson of the Confederates....569

## SURRENDER OF NORFOLK.

May 10.—Norfolk surrendered to Gen. Wool, the enemy having evacuated it, together with the navy yard and Portsmouth, which Gen. Wool also repossessed.

May 10.—Severe naval fight on the Mississippi near Fort Wright. Rebels defeated.

- 1862.
- May 11.—The rebels destroyed their celebrated iron-clad *Merrimac* and spiked 200 cannon before leaving. Gen. Hooker fought desperately for nine hours against great and superior forces, with 30,000 Union troops under McClellan in his sight, which were not permitted to reinforce him. . . . . 569
- May 13.—Steamer *Planter* run out of Charleston by Robert Smalls, a negro.
- May 20.—McClellan within eight miles of Richmond.
- “ 22.—At Front Royal, a force of 900 men under Col. Kenly was captured by a detachment of rebel cavalry under command of Ashby. . . . . 569
- May 23.—McClellan in position, five miles from Richmond.
- “ —Engagement at Louisburg, W. Va., between Col. Crook, United States Army, and Gen. Heath. Unionists victorious.
- May 25.—Gen. Banks defeated at Winchester; retreats to the Potomac.
- “ 30.—Halleck's troops occupy Corinth; the rebels evacuating. . . . . 569
- “ 31.—McClellan badly beaten at Fair Oaks by Gen. Hill.
- “ —Juarez removed the seat of Government from Mexico to San Luis Potosi.
- Union troops enter Little Rock, Ark., Rebel Government running off. . 570
- June 1.—Battle of Fair Oaks renewed under Gen. Sedgwick, and the Unionists recover much of their losses.
- June 1.—Gen. Mitchell summoned to command Port Royal, S. Carolina. 566
- Fremont advancing up the valley, occupies Strasburg.
- June 4.—Fort Pillow and Fort Randolph evacuated by the rebels. . . . . 565
- SURRENDER OF MEMPHIS.
- June 6.—Surrender of Memphis to Commodore Davis after a desperate fight on the river between the rebels and Union gun-boats, the rebel fleet being nearly annihilated, while not a man was killed on the Union fleet.
- The Union gun-boat *Mound City* blown up by a rebel ball, which passed through her steam drum, at St. Charles, and nearly on all board perished.
- June 8.—Attack on Springfield, Mo., by the rebel Gen. Marmaduke, with 4,000 men, who was gallantly repulsed by Gen. Browne, of the Missouri militia, with a little band of 1,200 men. . . . . 583
- June 8.—Battle of Crosskeys, Va. Union forces under Fremont, rebels led by Ewell. Desperate fighting, and retreat of the rebels during the night . . . . . 569
- June 9.—Shields, with 3,000 men, repulsed at Fort Republic by Jackson, with a force of 8,000 men. . . . . 570
- June 14.—Union troops repulsed, with much loss, on James' Island, near Charleston.
- June 16.—Gen. H. S. Wright advanced with 6,000 men and attacked Secessionville, commanded by Col. Lamar, but were repulsed with a loss of over 500 men. . . . . 584
- June 17.—Surrender of the powerful iron-clad *Atlanta* to Capt. John Rogers, of the *Weehawken*, after 15 minutes' engagement.
- June 19.—Slavery abolished by act of Congress in all the Territories.
- “ 23.—The rebel General Dick Taylor captured Brashear City, the Unionists losing 1,000 prisoners, 10 heavy guns, and \$2,000,000, and many thousand negroes, liberated by Banks, were forced back into slavery. . . . . 579
- June 24.—McClellan begins to “change his base” to James River.

## POPE IN COMMAND.

1862. June 26.—Gen. Pope placed in command over the army of Virginia, 50,000 strong.
- June 26.—Battle of Mechanicsville between Fitz John Porter and Jackson. Heavy losses on both sides, the enemy retreating.....570
- June 27.—Battle of Gaines Mills. Gen. Porter engaged with 35,000 against Gen. Lee's forces of 60,000, under Gen. Jackson. McClellan holding at the same time 60,000 troops on the other side of the Chickahominy, idly watching the rebels, who were stationed near with but 25,000 men. The Union forces were compelled to retreat from overwhelming odds, after a desperate and long-continued struggle.....570
- June 27.—Hooker occupied Frederic City.
- “ —Meade placed in command of the Army of the Potomac.
- June 28.—Hooker superseded by Meade.
- “ —Rebel General Early invaded York, Pa., and levied a large sum of money upon that place.
- June 29.—Meade advanced to South Mountain.
- “ —Longstreet and Hill march toward Gettysburg and order Ewell to meet them there.
- June 29.—Battles of Savage Station and Peach Orchard.
- June 30.—Battles of White Oak Swamp and Charles City Cross-roads, Jeff. Davis and Lee attending in person. Union forces led by McCall, Franklin, and Slocum, reinforced by Hooker late in the day.
- June 30.—Battle upon the James river, with Commodore Porter's fleet and Heintzelman upon the field. McCall captured, and the Union forces retreat to Malvern Hill on James River.....571
- July 1.—President Lincoln calls for 600,000 volunteers.
- “ —Attack of the rebels on Malvern Hill; their repulse and the decided victory of the Union forces.....571
- July 2.—Evacuation of Malvern Hill—where the army was strongly posted —by order of Gen. McClellan.
- The Union losses during the seven days' battles amounted to 15,249.
- July 5.—Murfreesboro, Tenn., captured by the guerrilla chieftain, Forrest.
- July 7.—Battle of Bayou de Cache, Arkansas. Gen. Curtis severely defeats Pike.
- July 7.—Raid of Morgan on Cynthiana, Ky., and his repulse by Green Clay Smith.
- July 8.—Surrender of Port Hudson by Gen. Gardner to Gen. Banks...578
- “ —Gen. Lee withdrew his forces to Richmond.
- HALLECK GENERAL-IN-CHIEF.
- July 11.—Gen. Halleck appointed Commander-in-chief of the Union army at Washington. Gen. Grant succeeding him at Corinth.....566
- July 13.—Murfreesboro, Tenn., taken by rebels, capturing the garrison with Gen. Crittenden.
- July 14.—Gen. Pope takes command of the Army of Virginia, and issues an address.
- July 15.—Battle of Fayetteville, Ark. Major Miller thoroughly beating Gens. Rains, Coffee, and others.

1862. July 22.—Vicksburg canal completed and found useless. Siege postponed.

## MARTIN VAN BUREN.

July 24.—Death of Martin Van Buren, the eighth President of the United States.

Aug.—Major Foster, with a force of 800 men, at Lone Jack, was defeated by Colonels Hughes and Coffee with a force of nearly 2,500 foot soldiers and cavalry, and Gen. Blunt in turn drove Coffey across the Arkansas line.

Aug. 2.—Gen. Pope's advance crosses the Rapidan and occupies Orange Court-house. . . . . 571

Aug. 3.—Gen. Halleck orders Gen. McClellan to retire from the Peninsula with all his forces. . . . . 571

Rebel Gen. Jeff. Thompson defeated with great loss near Memphis.

Aug. 4.—Draft of 300,000 men ordered, unless volunteering should prevent.

Aug. 5.—Unsuccessful attack on Baton Rouge by the Confederates under Major-Gen. John C. Breckenridge, with a loss of 400 men and one of their Generals (Clarke). . . . . 567

Aug. 6.—Rebel ram *Arkansas* destroyed near Vicksburg by Com. Porter.

" 6.—At Kirksville, Mo., Col. John McNeil, with a force of 1,000 cavalry and 6 guns, attacked a band of Missouri partisans, numbering twice his own, under Col. Porter, and after four hours' severe fighting, defeated them, killing 180, wounding 500, and taking a large quantity of arms. . . . . 563

Aug. 8.—Battle in New Mexico. Gen. Canby routing rebels under Gen. Sibley, who was killed by his own men.

Aug. 9.—Battle of Cedar Mountain. Banks defeated by Jackson. Rebel Gen. Winder killed and Union Gen. Prince taken prisoner.

Aug. 11.—Gen. Buell surrendered the garrison at Independence, consisting of 312 men, to a rebel band of 800 under Col. Hughes. . . . . 563

Aug. 16.—Cavalry raid of Col. J. J. Phillips into Mississippi as far as Grenada, destroying fifty locomotives and five hundred cars.

Aug. 24.—Gen. Bragg's army invades Middle Tennessee and Kentucky, and Union Gen. George W. Morgan retreats to the Ohio river.

Aug. 26.—Skirmish at Lewisburg between Union Gen. W. W. Averill and Col. George S. Patton. . . . . 581

Aug. 28.—Union victory at Centreville under command of Pope, aided by Kearney and Sigel, and reinforced by Hooker and Reno late in the day. Longstreet commanding the rebel forces. . . . . 572

Aug. 29-30.—Pope defeated near Bull Run and Centreville. . . . . 572

Aug. 29.—Defeat of the Union force under Gen. Nelson at Richmond, Ky., by Gen. Kirby Smith.

## SURRENDER OF MEMPHIS.

Surrender of Memphis to Com. Foote, giving the Union army the control of the Memphis and Charleston Railroad.

## RACE BETWEEN BRAGG AND BUELL.

Gen. Bragg's raid into Kentucky, and race of 800 miles between Bragg and Gen. Buell, with their respective armies, to gain Louisville. Bragg being detained by a burning bridge, Buell reached Louisville in advance of him.

- 1862 Buell attacks Bragg, and a desperate battle fought at Perryville. Bragg retreats by night, taking an immense quantity of plunder.
- Sept.—The Union forces suffer several defeats and quite severe losses from ill-advised expeditions into Southern Louisiana.....579
- Sept. 1.—Battle of Chantilly, Va. Union army victorious, with the loss of Gen. Phil. Kearney and the brave Gen. Isaac J. Stevens.....572
- Sept. 2.—Gen. Pope sent to the North-west to conduct a campaign against the Sioux Indians.....572
- Sept. 2.—Attack on the rebels under Col. Poindexter at Chariton River by Col. Guitar, who drove them north, where they were met by Gen. Loan and again attacked by Gen. Guitar, who utterly annihilated the command.
- Sept. 3.—Gen. McClellan takes command of Pope's army.
- Sept. 4.—Lee's army cross the Potomac at Poolesville, Md.
- General Porter was, in like manner, driven back upon Gen. McNeil by Gen. Loan, and compelled to disperse his command to save it from destruction. These skirmishes drove the enemy entirely south of the Missouri River, where they remained during the war.....562
- Sept. 14.—Battle of South Mountain, conducted by McClellan, Gen. Hill aiding the rebel forces. Union arms victorious. Maj.-Gen. Jesse L. Reno killed.....573
- Sept. 15.—Surrender of Harper's Ferry to the rebels by Gen. Miles....573

## BATTLE OF ANTIETAM.

Sept. 16-17.—Battle of Antietam, between Gen. McClellan and Gen. Lee. Nearly 100,000 men engaged on each side. Battle raged for fourteen hours, extending four miles along the line. Gen. McClellan was aided by Burnside, Hooker, Mansfield, Sumner, and Franklin; Gen. Lee by Hood, Hill, Walker, and McLaw. The Union arms were victorious. Lee retreated across the Potomac, leaving behind 40 of their colors and 25,000 men either dead or taken prisoners.

Sept. 19.—Gen. Griffin crossed the river by night and carried eight rebel batteries on Virginia Bluffs.

Sept. 19.—Battle at Iuka. Rosecranz wins, against superior forces under Gen. Price, who retreats in the night with the loss of 1,438 men.....574

Sept. 20.—Gen. Porter was ambushed by Gen. Hill and driven back to the river with great slaughter.

Sept. 22.—Re-occupation of Harper's Ferry by Union forces under Gen. Sumner.

## EMANCIPATION PROCLAMATION ISSUED.

Sept. 22.—President Lincoln issues a proclamation abolishing slavery in all the States that should be in the rebellion on the 1st of January, 1863.

Gen. Schofield, in command of Missouri, was superseded by Gen. Curtis. Gen. Schofield, with 10,000 men, drove the Confederates from Southwestern Missouri.....563

Sept. 24.—Proclamation of suspension of writ of habeas corpus in military cases.

Oct. 3-4.—Battle at Corinth. Desperate fighting between Rosecranz and Price. A "Bunker Hill" encounter—the rebels throwing away their arms, and fleeing in wild disorder. The Union forces engaged numbered 15,700, and the Confederates 38,000.....575

1862. Oct. 8-9.—Battle at Perryville, Ky., between McCook's division of Buell's army and Gen. Bragg. Surprise and desperate charge by the enemy, then their defeat and precipitate retreat, through a timely and rapid charge by Phil. Sheridan.....574
- Oct. 10-12.—Stuart's rebel cavalry raid into Pennsylvania; they seize and rob Chambersburg.
- Oct.—Buell superseded by Maj-Gen. Rosecranz.....574
- Oct. 23.—Gen. Blunt routs the rebels at Maysville, Ark.
- Gen. McClellan, after repeated orders, advances into Virginia.
- Nov. 8.—Gen. Burnside assumed command of the army of the Potomac, and began a rapid march toward Fredericksburg. Gen. McClellan relieved.

BURNSIDE'S EXPEDITION.

- Gen. Burnside, with 11,000 troops, and flag-officer Goldsborough in command of the fleet, conduct an expedition against Roanoke. They destroy the rebel fleet and capture the forts, and gain command of the whole coast of North Carolina.
- Nov. 28.—Gen Blunt defeats the rebel Gen. Marmaduke at Cave Hill, Ark., with heavy loss.
- Dec.—Battle at Prairie Grove between Gen. Blunt, aided by Gen. Heron, and Confederate Gen. Hindman, resulting in victory to the Union arms; Gen. Stein, aide to General Hindman, was killed.....563

BATTLE OF FREDERICKSBURG

- Dec. 13.—Battle of Fredericksburg; 100,000 men engaged on the Union side, and 80,000 on the rebel. The Union army led by Burnside, Confederates by Gen. Lee. The rebels were thoroughly posted on the terraced heights above the city, and well supported, and the fighting on both sides was valiant and desperate. The Union army nearly destroyed the city, but failed to gain any advantage, and, at the earnest solicitation of his officers, Burnside withdrew from action, and at the close of the 15th removed his forces across the river. The Union loss this bloody day summed up 13,771, including killed, wounded, and missing. The rebel loss was 5,000.

BANKS SUPERSEDES BUTLER.

- Dec. 14.—Gen. N. P. Banks superseded Gen. Butler at New Orleans; Butler having gained 4,000 soldiers, including three regiments and two batteries of negroes. He collected \$1,088,000 by taxation and confiscation, after feeding the poor of the city to the extent of \$525,000, he turned the balance over to the U. S. Treasury. His rigorous administration of law and justice caused a reward of \$10,000 to be offered for his body dead or alive, by a leading rebel of Charleston, S. C.....567

First issue of Greenbacks.

- Dec. 20.—Col. Murphy surrendered Holly Springs, with 2,000 men, including a large hospital filled with sick and wounded, and \$4,000,000 worth of property to Gen. Van Dorn, of Sherman's command
- Dec. 23.—Jeff. Davis issues a proclamation outlawing Gen. Butler.
- " 26.—Com. Porter's gun-boats opened fire upon Vicksburg.
- Dec. 27-28.—Sherman attacked Vicksburg by land, and carried two lines of rifle-pits, but finding the city impregnable, he retired with a loss of 1,734 men.
- Dec.—Sherman superseded by McClelland.

## BATTLE OF MURFREESBORO.

1862. Dec. 31 to Jan. 3.—Rosecranz defeats Bragg after successive and exhausting combats against superior numbers. The Union forces amounted to about 40,000, and the Confederate 60,000. Union loss 1,533 killed, 7,243 wounded, 2,800 missing. The killed and wounded of the enemy amounted to 14,560.
- Dec. 31.—*Monitor* founders at sea off Cape Hatteras.

## EMANCIPATION PROCLAIMED.

- 1863 Jan. 1.—Great Emancipation Proclamation announced to be in force. It was long contemplated, but as a "war measure" was delayed until a propitious moment, when it was announced, and enthusiastically received at the North. By this act more than 3,000,000 slaves were made free.
- Jan. 1.—Gen. Magruder attacked the Massachusetts troops at Galveston, Texas, retaking the place. In co-operation with Magruder, three rebel rams attacked the Union fleet, blockading the bay, and capturing the *Harriet Lane*, forced Renshaw, the commander of the *Westfield*, to blow her up, in which act he lost his life. . . . .578

## LYMAN BEECHER.

Jan. 10.—Lyman Beecher, D. D., died in Brooklyn, N. Y., at the age of 87 years. He was an American clergyman, and author of great eminence, and father of Henry Ward Beecher and Mrs. H. B. Stowe. Mr. Beecher enjoyed a large popularity as an eloquent and able minister of the Gospel, and bore an unblemished reputation. In 1832 he was called to the presidency of the Lane Theological Seminary in Cincinnati, Ohio, which post he maintained until his death.

Jan. 11.—Gen. Banks attacks the enemy at Carney's Bridge, defeating them and destroying the gun-boat *Cotton*. . . . .578

Jan. 11.—Arkansas Post surrendered to Gen. McClelland.

Jan. 12.—The gun-boat *Hatteras* sunk by the rebel privateer *Alabama* at Galveston. . . . .578

Jan. 21.—Two rebel gun-boats captured at the mouth of the Sabine. . .578

" 27.—Bombardment of Fort McAllister, on the Ogeechee, by the *Monitor*. No results.

Jan. 28.—Gen. Hooker succeeded Burnside over the Army of the Potomac.

Feb.—Soldiers' Home established in Louisville by the Kentucky Branch Commission.

Feb. 25.—Act to provide a national currency becomes a law.

Feb. 28.—Rebel steamer *Nashville* destroyed by the *Montauk* on the Ogeechee River.

March.—Soldiers' Home established in Cairo by the Chicago Branch Commission.

March.—Col. A. D. Streight was captured by Gen. Forrest, after a running fight of nearly 100 miles. He was sent to Libby Prison with his men, numbering 1,365.

March 8.—Twenty-three rebel steamers captured up the Yazoo river.

March 9.—Gen. Custer succeeded by Gen. Schofield in command of the Department of Missouri. . . . .584

March 14.—Severe bombardment of Port Hudson, and attempt by the fleet to pass rebel batteries.

1863. March 20.—Col. A. S. Hall defeated Gen. Morgan, at Milton, against forces vastly superior to his own.....576
- March 25.—Rebel fort destroyed opposite the Union center, by springing a mine, and after a bloody encounter the Union forces took possession.....518
- March 30.—At Somerset, Ky., Gen. Gilmore, with a force of 1,200 routed the rebel Gen. Pegram, with two thousand five hundred men.....583
- April 1.—Farragut runs batteries at Grand Gulf and ravages Red River country.
- April 7.—Unsuccessful attempt by Com. Dupont to take Fort Sumter, with serious slaughter to his fleet.
- April 10.—Van Dorn repulsed at Franklin by Gordon Granger.....576
- “ 16.—Com. Porter successfully ran the batteries at Vicksburg with his fleet of gun-boats, losing but one boat, the *Tigress*, and a part of the barges.....577
- April 27.—Chancellorsville campaign begins.
- “ 29.—Com. Porter attacked the rebel batteries of Grand Gulf, but Gen. Grant deciding to discontinue the assault, Porter ran their batteries without injury to his fleet.....577
- May 1.—Attack on Fort Gibson by McClernand, which, with Grand Gulf, were soon evacuated by the rebels.....577

## BATTLE OF CHANCELLORSVILLE.

May 2-5.—Battle of Chancellorsville under Hooker and Lee. Union forces engaged, 70,000; rebel forces, 50,000. Results undecided, but losses were very heavy on both sides. The rebel Gen. Stonewall Jackson mortally wounded, and Gen. Hooker stunned and insensible for a time, from a cannon-ball striking a pillar against which he was leaning.

May 2.—Col. Grierson's force reaches Baton Rouge safe after fifteen days' ride through Mississippi.

## VALANDIGHAM'S ARREST.

May 4.—Arrest of Valandigham for publicly expressing sympathy with the South, and for treasonable language against the military and civil administration.

May 10.—Death of Stonewall Jackson.

“ 15.—Battle of Edwards station. Enemy defeated by Grant, and pursued to Black River.....577

May 15.—Battle of Jackson, Miss., Logan and Crocker defeating the rebels and taking their place.

May 16.—Battle of Baker's Creek. Grant completely routes Pemberton, who loses 4,000 men and 29 guns.

May 17.—Battle of Black River Bridge. Defeat and retreat of Pemberton to Vicksburg. Grant captures 18 guns and 1,500 prisoners.

## SIEGE OF VICKSBURG BEGUN.

May 18.—Gen. Grant closes in on Vicksburg and begins the siege.....577

“ 19.—Haines' Bluff evacuated by the enemy.....578

“ 25.—Admiral Porter destroys \$10,000,000 worth of property up the Yazoo.

June.—A cavalry force under Col. Saunders enters East Tennessee, and captures 500 prisoners, burning several important bridges, and destroying a large quantity of rebel stores.....583

1863. June.—Gen. Rosecranz captures Shelbyville and Tullahoma *en route* for Chattanooga.....583

## SURRENDER OF FORT HINDMAN.

June 11.—Fort Hindman, or Arkansas Post, surrendered to Gen. McClernand with 17 cannon, 3,000 stand of arms, seven stand of colors, 5,000 prisoners, and large quantities of munitions. Gen. McClernand destroyed the works, and returned to Milliken's Bend.....577

## REBEL SCARE.

The rebels captured the Union rams *Queen of the West* and *Indianola*, but blew up the latter on the approach of a counterfeit ram—made out of a flat-boat, with pork-barrels for smoke-stacks, and mud-furnaces—sent down the river by Com. Porter.....577

Rebels under Lee moving North—Hooker starts to meet them.

Henry Ward Beecher visits England, and successfully meets the opposition to our Government amid vast and tumultuous mobs, silencing them, and winning applause instead of hisses.

June 14.—Attack on the Union forces under Gen. Milroy at Winchester by the rebel Gens. Ewell and Longstreet, with a large force. Milroy having but a few regiments, maintained his ground until the afternoon of the 15th, when he retreated toward Martinsburg. Four miles out, he was again attacked by another division, and his force routed and dispersed. Hundreds of his fugitive soldiers were taken prisoners, and the loss of artillery and wagons was extensive.

June 15.—The whole rebel army enters Pennsylvania, and marches North to within 13 miles of Harrisburg. Great excitement prevails in the Northern States. President Lincoln calls on the nearest States for militia, and is promptly responded to.

June 17.—Rebel ram *Atlanta* captured by the *Weehawken* after an engagement of 15 minutes.

“ 26.—Andrew Hull Foote died in New York. He was an American Rear-Admiral, who served in the civil war with great distinction.

June 28.—Gen. Meade supersedes Hooker. Lee's forces within four miles of Harrisburg.

July 1.—Judge Cooley, of the New Orleans Bar, was shot in a duel by Col. R. B. Rhett, a political opponent.

## MORGAN'S RAID.

July 3.—Morgan began his raid through the border States, capturing prisoners and destroying property, and committing acts of depredation and hostility; robbing the mail, and plundering private citizens. He was captured, with over 2,000 guerrillas, near New Lisbon, O., by Col. Shackelford, and, with several of his officers, confined in the Penitentiary at Columbus, from which he escaped in November, and reached Richmond, Va., and again entered the rebel service, and was killed the following year.....581

## BATTLE OF GETTYSBURG.

July 1-4.—The battle of Gettysburg, between Gens. Meade and Lee, was one of the most bloody and hard-fought battles of the war. The armies were each about 80,000 strong. They fought desperately for three days, but finally victory crowned the Union arms. Total Union loss was 23,186. Meade captured 41 flags and 13,621 prisoners. Lee made no report, but his supposed loss was 18,000 killed and wounded, and 10,000 unrounded prisoners...580

## SURRENDER OF VICKSBURG.

1863. July 4.—Vicksburg, with 31,000 men, surrendered to Gen. Grant. The campaign had been carried on with great vigor for several months. The inhabitants had been obliged to burrow in caves and holes dug in the ground to protect themselves from the fiery storm of shot and shell which continually poured upon them. Destitute of ammunition and necessary provisions, the rebels at last capitulated. To Gen. McPherson was granted the honor of formally receiving the surrender.

July 8.—Surrender of Port Hudson, with 7,000 men, to Gen. Banks, and the Mississippi is thus opened.

## MAXIMILIAN DECLARED EMPEROR OF MEXICO.

July 10.—The provisional French Government, set up in Mexico by the name of Assembly of Notables, numbering 215 persons, assembled and declared for an imperial form of Government, and Archduke Maximilian of Austria was proclaimed Emperor.

July 10.—Gen. Gilmore begins his attack on Forts Wagner and Gregg, Charleston.

July 13.—Lee recrosses the Potomac into Virginia.

## RIOT IN NEW YORK.

July 13-15.—Great anti-draft riot in New York. The mob destroyed the Draft-office, burned the buildings and the whole block, preventing the fire department from doing their duty. Marching through the city, they took possession of, and destroyed every building which the Government officers occupied, gaining entire control of the city, and holding it for four days. Negroes were indiscriminately beaten and murdered in the most inhuman manner. \$2,500,000 damages were claimed, and the number of lives lost was variously estimated from 500 to 1,000. The mob was finally quelled, partly by the efforts of Gov. Seymour and Archbishop Hughes, but chiefly by the untiring efforts of the police and the militia and the suppression of the draft.

July 15.—*Riot in Boston*, which was soon suppressed, and one rioter killed and several wounded.

Aug. 16.—Rosecranz begins his march upon Chattanooga.

## QUANTRELL'S RAID IN KANSAS.

Aug. 21.—Quantrell's raid upon Lawrence, Kan. A band of 300 rebel guerrillas, headed by Quantrell, a desperado, entered the quiet town of Lawrence early in the morning, and surprised the sleeping inhabitants, burning 185 buildings, and murdering in cold blood 140 men (many of them in their beds), robbing stores, banks and private dwellings promiscuously. They then fled like so many wild savages of the forest from the avenging hand of Justice. The inhabitants pursued and killed 100 of their number.

Aug. 23.—Shells thrown by the Union fleet into Charleston, nearly six miles. Beauregard protests.

Sept. 3.—Gen. Burnside occupies Knoxville, Tenn. The loyal people of East Tennessee receive him with expressions of intense joy at their deliverance.

Sept. 6.—The rebels evacuate Forts Wagner and Gregg and Gilmore occupy them.

Sept. 9.—Surrender of Cumberland Gap to Burnside, with 2,000 men. .583

## BATTLE OF CHICKAMAUGA.

1863. Sept. 19-20.—Battle of Chickamauga fought by Rosecranz and Gen. Bragg. Union army defeated the second day, and withdrew to Chattanooga, except Gen. Thomas, who stood his ground, with a few divisions, for several hours, against the whole rebel army of 70,000 men, till night closed the bloody scene. The total Union loss was 16,351, and Gen. Bragg reported a loss 18,000. .582

## SHERMAN'S MARCH.

Oct.—Gen. Sherman, with his whole army, moved from Vicksburg south into Alabama, repairing the railroad and subsisting on the invaded country.583

Oct. 2.—A large cavalry force, under rebel Gen. Wheeler, crossed the Tennessee and burned a train of eight hundred wagons—destined for Thomas at Chattanooga—at Anderson's Cross Roads, a large quantity of supplies at McMinnville and Warren. He was repulsed at Murfreesboro and Farmington, and recrossed the Tennessee, having destroyed a million dollars worth of Government property, but with a loss of 2,000 men. . . . .583

Oct. 17.—*President Lincoln calls for 300,000 more men.*

" 18.—Gen. Grant assumed command of the Department of the Ohio. Cumberland and Tennessee armies soon after arrived in Chattanooga. . . .583

Oct. 20.—Gen. Thomas succeeds Rosecranz in his command.

" 27.—Gen. Hooker encamped in Lookout Valley.

" 28.—Hooker's forces take Lookout Mountain.

First Sanitary Fair, for the relief of soldiers, held in Chicago, the net proceeds of which were \$72,000.

First Fenian Congress held in the United States.

Nov. 6.—Gen. Averill routed a rebel force, under Gen. Echols, at Droop Mountain. . . . .581

Nov. 6.—Col. Shackelford attacked at Rogersville by Gen. W. E. Jones, and 750 men captured.

Nov. 7.—Gen. Meade crosses the Rappahannock southward. Lee retiring.

Col. Woolford, with 2,000 men, attacked by 7,000 of Longstreet's men, and after fighting several hours, Woolford cut his way out, leaving his battery and 32 wagons, but saving the most of his command. . . . .583

Nov. 17.—Longstreet begins the siege of Knoxville, occupied by Burnside.

## BATTLE OF CHATTANOOGA.

Nov. 24.—Battle of Chattanooga, extending from Lookout Mountain, on the left, to Missionary Ridge, on the right. Hooker sweeps up the sides of Lookout Mountain and reaches the summit under a thick fog, driving the enemy down the precipitous eastern sides of the mountain, while Sherman attacks the enemy's right at Missionary Ridge, and Gen. Thomas, with 25,000, attacked the center before Chattanooga. The battle raged along the whole line, and at midnight the enemy was in full retreat, leaving their strong positions with 6,000 soldiers, 40 pieces of artillery, and 7,000 stand of small arms in the hands of the Unionists. The Union losses amounted to 5,616; the rebel loss not reported. . . . .583

Nov. 28.—Morgan, and six of his officers, dig out of Ohio State Prison.

" —Longstreet repulsed, with a loss of 800. . . . .583

" 29.—Rebels repulsed, with great slaughter, in their attack on Knoxville.

## BANKS' EXPEDITION TO TEXAS.

1863. Gen. Banks' expedition into Texas. He captures the rebel forts Esperanza, Brazos Island, Point Cabel, and Brownsville, and drives out the enemy west of the Colorado. By order of the Government, Gen. Banks reluctantly abandoned Texas and returned to New Orleans. . . . 579
- Erection of the Great Organ in the Boston Music Hall, the largest and most perfect instrument of its kind in America. Its weight is 70 tons, and has 5,474 pipes. Its cost was \$60,000.
- Dec.—Rebel Gen. Forrest raided through W. Tennessee.
- “ 1.—Meade crosses the Rapidan. Grant concentrates his army at Chattanooga.
- Dec. 5.—Longstreet raised the siege of Knoxville and moved east. . . . 583
- “ 6.—Monitor *Weehawken* sinks at her anchorage at Charleston, and 31 mer lost.
- Sanitary Fair held in Cincinnati. Net proceeds were \$235,000.
- Dec. 8.—The President issues his amnesty proclamation.
- “ 16.—Gen. Averill's raid destroys vast rebel supplies at Salem in S. W. Virginia.
1864. Jan.—Second voyage of Hall to the polar seas.
- “ 1.—Emancipation anniversary celebrated by many colored people.
- The Union forces advance toward Richmond, and attack the enemy's works at Hatcher's Run, but failing of success, retire to their position before Petersburg. . . . 589
- Jan. 25.—Congress gives a vote of thanks to Cornelius Vanderbilt for his gift to the United States of the steamer *Vanderbilt*, worth \$800,000.
- Jan. 29.—Gen. Palmer occupies Tunnel Hill, Ga.; the rebels evacuating in the night.
- Jan.—Gen. Rosecranz assumes command of the Department of Missouri. 587
- Feb. 1.—Draft of 500,000 men ordered.
- “ 7.—Gilmore's advance lands at Jacksonville, Fla., under Gen. Seymour.
- Rash and unsuccessful expedition of Gen. Seymour into Florida, and battle at Lake City, where he lost half his force and guns. His retreat to Jacksonville, leaving the dead in the enemy's hands. . . . 586
- Feb. 8.—Cott's armory, Hartford, Ct., destroyed by fire. Loss, \$1,000,000.
- “ 17.—*Housatonic* sunk at Charleston by rebel torpedo-boat *Davis*, which also sank.
- Feb.—Gen. Sherman advances to Meridian, destroying a great amount of railroad property, and capturing 400 prisoners, 1,000 white and 5,000 negro refugees. . . . 591
- Feb. 20.—Gen. Seymour, with Gilmore's troops, severely defeated at Olustee, Fla.
- Feb. 21-23.—Gen. Smith has three days' running fight with Forrest and others, in Mississippi, and at last defeats them.
- Feb. 23.—Gen. Palmer drives the rebels at Tunnel Hill, Ga.
- KILPATRICK'S RAID.
- Feb. 28.—Kilpatrick's raid into Virginia. He approaches within two miles of Richmond. Gen. Dahlgren killed in the expedition.

## GEN. GRANT IN COMMAND.

1864. March 2.—Gen. Grant made Lieutenant General of the Union armies, and proceeded to re-organize the forces.

March 4.—A free State Government for Louisiana was inaugurated, with Gov. Hahn at its head, before an immense and enthusiastic multitude in Lafayette Square, New Orleans.....586

## RED RIVER EXPEDITION.

March.—Ad. Porter's expedition sailed up the Red River to Alexandria, capturing on the way Fort De Russa, with ten guns, and 283 prisoners...586

March 15.—The President calls for 200,000 more men to be drafted April 15th.

March 16.—Arkansas votes to become a free State.

“ —Alexandria surrendered to Porter without a struggle.....586

“ 17.—Gen. Grant assumes entire command of all the armies of the United States.

March 28.—Battle of Crane River, La. Gen. Smith's forces defeat the rebel Gen. Taylor.

March 31.—Juarez, with his Cabinet, Government officials, and a band of soldiers, took possession of Monterey, and established the national capitol.

April 4.—Gen. Steele attacked by Kirby Smith, at Jenkins' Ferry, Ark., with superior forces under Price, but after a furious battle, Price was defeated, with a loss of 2,300 men and three Generals.....587

April 4-23.—New York Sanitary Commission Fair, receipts over \$1,000,000.

April 8.—Defeat of Gen. Banks at Sabine Cross Roads by Kirby Smith.

“ 9.—Smith repulsed by Banks at Pleasant Hill.....586

“ 12.—Fort Pillow Massacre under orders of the notorious guerrilla, Forrest, which was a relentless and wholesale murder of colored men, women, and children, by the most cruel and wholesale means, many being fastened in the tents and burned alive, and the wounded and sick were made to stand up and be shot down like cattle; the only plea being that the loyal white Southerners were “home-made Yankees,” and the colored troops “niggers.”

April 19.—Porter's fleet aground in Red River by low water.....586

“ 20.—Plymouth, N. C., surrendered to the rebels by Gen. Wessels, with 1,600 prisoners, 25 guns, and valuable stores.....586

April 24.—Banks defeats the rebels under Gen. Bee at Crane River....586

“ 28.—Washington, N. C., evacuated by Union troops; the ram *Albatross* controls the Sound.

## SHERMAN'S GRAND MARCH.

May.—Sherman began his march to the sea through the heart of the South. He swept everything before him. Atlanta taken and burned; Fort McAllister captured; Savannah abandoned by the Confederates and taken; Columbia, S. C., burned, and Raleigh, N. C., taken; the Confederate army under Johnson surrendering at the latter place. Charleston also evacuated after a siege of 542 days.

## SHERMAN BEFORE ATLANTA.

May.—Gen. Sherman, with 100,000 men, comprising the army of the Cumberland under Gen. Thomas, the army of Tennessee under Gen. McPherson, and the army of the Ohio under Gen. Schofield, together with 554 pieces of

1864. artillery, began the campaign against Atlanta. The rebel army opposing him under Gen. J. Johnston, numbered 60,000, was divided into three corps, led by Generals Hardee, Hood, and Polk.
- May 2.—Col. Bailey builds dams across Red River, and by raising the water, saves Porter's entire fleet. . . . .586
- May 4.—Gen. Butler, in co-operation with Grant, occupied City Point up the James River, and began intrenchments, while Col. West, with a cavalry force, moved up the north bank and occupied Bermuda Hundred.
- May 4.—Grant's army crosses the Rapidan. . . . .587
- " 5.—Sea-fight in Albemarle Sound with the ram *Albemarle*, which is driven off.

## BATTLE OF THE WILDERNESS.

May 5.—The battle of the Wilderness began. This was the longest and most terrible engagement of the war, lasting from the 5th to the 21st, with great loss to both armies. The weather was intensely hot, the air still and stifling. The thickets caught fire, and amid the fearful carnage and din of war, the flames added fresh horror to the terrible scene. The smoke and heat blinded and nearly suffocated the soldiers, who fought and fell amid the trampling legions which swept over them in their mad fury, leaving them to the mercy of the flames.

General Meade reported the Union loss at 39,791. The rebel loss was not ascertained.

- May 7.—Sherman advances from Chattanooga on his Atlanta campaign.
- " 9.—Gen. McPherson forces his way through Snake Creek Gap.
- " 10.—Gen. Averill beaten at Wytherville by a heavy force under John Morgan. . . . .590
- May.—Gen. Crook repulsed by Gen. McCausland near Dublin Station. . .590
- " 10.—Johnson evacuated Dalton, and retreated to Resaca. . . . .591
- " 11.—Sheridan's raid to the enemy's rear, destroying ten miles of the Virginia Central Railroad and a large quantity of supplies, and liberating 400 prisoners. Reaching the first line of works around Richmond, he encountered the enemy and killed their General, Stuart.
- May 15.—Engagement between Gen. Sigel and Gen. Breckenridge, who commanded a large force. Sigel was defeated and driven to Cedar Creek, losing 700 men, 6 guns, and a part of his train. . . . .589
- May 15.—Battle of New Market, W. Va. Sigel defeated.
- " —Banks' troops defeat the rebels at Aroyelle's Prairie, La.
- " —Johnston evacuates Resaca and retreats in the night to Oostenaula River, pursued by the Union army.
- May 16.—Butler attacked Beauregard at Drury's Bluff and was driven into his intrenchments with a loss of 4,000 men.
- May 19.—Howard's forged proclamation for 400,000 troops appeared.
- " 21.—Grant advances toward Richmond to the North Anna.
- " 23-24.—Grant crosses the North Anna. Lee still retiring.
- " 28.—Sheridan had a cavalry engagement with Fitzhugh Lee and routed him, with a loss of 800 to the rebels.
- May 28.—Attack of Johnston upon McPherson at Dallas. Johnston repulsed with a loss of 3,000. . . . .591
- May 31.—Cold Harbor seized by Sheridan. . . . .588

1864. June 1.—Sheridan skirmishes around the left of Lee and routs a body of cavalry, under Wade Hampton, at Trevillian Station, taking several hundred prisoners.

June 1.—Johnston evacuates Allatoona Pass, and falls back to Kenesaw Mountain, and Sherman occupies it.

BATTLE AT COLD HARBOR.

June 2-8.—Grant's advance engage the enemy and hold their ground at a cost of 2,000 men.

June 3.—Grant makes a grand assault on the enemy, which was resisted with terrible force. The engagement lasted but twenty minutes.

June 5.—Gen. Hunter, having succeeded Sigel, had an encounter with Gen. W. E. Jones at Piedmont, completely routing him, and capturing 1,500 prisoners, 3 guns, and 3,000 small arms. Gen. Jones and a large number of his men were killed. . . . .590

June 12.—Grant's army crosses the Chickahominy, and takes position on the south side of the James River. Grant hastens to Bermuda to aid Butler in the capture of Petersburg, which Butler had already attacked. . . . .589

June 12.—Gen. Burbridge defeats Morgan at Cynthiana, recapturing many prisoners.

June 12-15.—Grant moves his army to the south side of James River.

“ 13.—Fugitive slave law repealed.

“ 14.—Engagement between Sherman and Johnson. Gen. Polk killed.

“ —Sherman still advancing.

“ 15.—Battle of Pine Mountain. Sherman drives the rebels back to their works.

June 15.—Fifty Union officers, prisoners, placed under fire at Charleston by the rebels.

GRANT AT PETERSBURG.

June 16.—Grant makes a grand assault on Petersburg; Lee, with the most of his army, having arrived during the previous night. The day closed with heavy loss to the Union side, and no advantage gained. . . . .589

SIEGE OF PETERSBURG.

June 18.—Grant again assaults the enemy before Petersburg, and is again repulsed with loss. He now intrenched his army, and besieged the city. .589

June 18.—Hunter attacks Lynchburg, but finding it heavily reinforced by the arrival of General Lee, he retreats, sharply pursued across the Alleghany to Meadow Bluff, in W. Va. . . . .590

“KEARSARGE” SINKS THE “ALABAMA.”

June 19.—Naval fight between the rebel cruiser *Alabama*, Capt. Semmes, and the United States gun-boat *Kearsarge*, Capt. Winslow, off Cherbourg, France. After an hour's engagement the *Alabama* ran up the white flag. Capt. Semmes jumping overboard, was taken on board the British yacht *Deerhound*. The *Alabama* sank immediately. The *Kearsarge* picked up a part of her crew. She did not lose a man in the action, and but one was mortally wounded.

June 22.—Hood attacks Hooker at Kenesaw, and fails, with a loss of 800 men. . . . .592

June 22.—Emancipation amendment submitted to the States by Congress.

1864. June 22.—Butler occupied Deep Bottom, ten miles from Richmond, and throws a pontoon bridge over the James at that point.  
 June 24.—Maryland Constitutional Convention adopts emancipation clause.  
 " 25.—Sheridan has a successful cavalry fight on the Peninsula.  
 " 27.—Thomas and McPherson repulsed at Kenesaw, by Johnston's forces, with heavy loss. Gens. Harker and McCook among the killed... 591  
 June 28.—Wilson and Kautz attacked, and their troops dispersed at Double Ridge, on Nottoway River.

CHASE RESIGNS.

June 30.—Salmon P. Chase resigned his post as Secretary of the Treasury, after a faithful and wonderfully successful discharge of the duties of the office.....593

EARLY'S RAID.

July 1.—Early caused Sigel to retreat from Martinsburg to Maryland Heights, leaving heavy stores behind.

July 3.—Sherman occupies Marletta and Kenesaw Mt., having flanked Johnston, and compelled him to evacuate.....592

July 5-13.—Early's raid into Maryland.

" 9.—Johnston retires to Opeka, and is soon superseded by Hood, who assumes the offensive.....592

July 9.—Attack of the rebels upon Gen. Wallace near Frederick, who was forced to retreat.

July 10.—Rousseau, with 2,700 men, moves into Alabama on a raid.

Reb. Gen. Bradley T. Johnson approaches Baltimore, robbing a Philadelphia mail-train and the passengers.....590

July 12.—Early's entire army within six miles of Washington. A skirmish ensues, and discovering the Union forces to be more than double his own, he retreats across the Potomac with a vast amount of plunder.....590

July 13-15.—Gen. Smith defeats Forrest and others in five battles in Mississippi.

July 15.—Six steamers, worth \$300,000, burned at St. Louis by incendiaries.

July 16.—Gold about this time at its highest in New York, viz., 284 per cent.

July 17.—Hood succeeds Johnston in command at Atlanta.

—Jacques and Gillmore in Richmond vainly suing for peace.

18.—Rousseau destroys an immense value in railroads and provisions in Alabama.

July 19.—Gen. Wright, following in pursuit of Early, was repulsed near Island Ford.....590

July 20.—Averill defeats a division of Early's command, and captures four guns.

HOOD'S DEFEAT.

July 20.—Hood, with his entire army, assailed Sherman five miles from Atlanta, and was vigorously repulsed, with a loss of 5,000, including several Generals. Union loss 2,500.....592

July 22.—First publication of statements concerning the "Order of American Knights."

1864. July 22.—Sherman advanced to within two miles of Atlanta. . . . . 592  
 " —Hood makes a grand attack upon Sherman without success, losing 12,000 men, 18 stand of colors, and 5,000 small arms. Union loss 3,722, including Gen. McPherson among the killed. . . . . 593  
 July 24.—Early, with a large force, falls upon the troops of Crook and Averill, driving them into Maryland, with a loss of 1,200 men, including Gen. Mulligan. . . . . 590  
 July 28.—Hood again attacks Sherman, and was six times repulsed with heavy loss, when he retreated. . . . . 592  
 July 30.—McCausland crossed the Potomac and approached Chambersburg, and demanded a ransom of \$500,000, which being refused, he set fire to the town and destroyed two-thirds of it.  
 July 30.—Explosion of a mine under the rebel works of Petersburg, resulting in the immediate loss of a garrison of 300 men, but which brought a worse disaster upon the Union forces which attempted crossing the crater; 4,400 were killed, wounded, and taken prisoners.

## FARRAGUT'S FIGHT IN MOBILE BAY.

Aug. 5.—Commodore Farragut's splendid achievement in Mobile Bay. He silenced the forts at the entrance of the Bay, fought the whole Confederate fleet, and captured the monster ram *Tennessee*, with her attendants. Forts Morgan and Gaines soon after capitulated.

Aug. 7.—Averill totally defeats McCausland and other rebels at Moorefield, West Virginia.

Aug. 7.—Gen. Sheridan takes command of the Middle Department. . . . . 590

" 8.—Fort Gaines, at Mobile, surrendered to Farragut and Granger

" 10.—Canal at Dutch Gap, below Richmond, begun.

" 18.—Battle at Reams' Station. Warren holds his position on the rail-road.

Aug. 23.—Fort Morgan, at Mobile, surrendered to Farragut and Granger.

" —The 5th Illinois captured by Shelby near Little Rock, Ark. . . . . 587

" 25.—Second battle at Reams' Station—the rebels win.

" 31.—McClellan nominated for President at Chicago. . . . . 593

## EVACUATION OF ATLANTA.

Aug. 31.—Hood hastily evacuated Atlanta, blowing up magazines and stores, destroying seven locomotives and 81 cars, and a large amount of cotton. . . . . 593

Sept. 4.—The guerrilla, Morgan, shot by Gilman's men at Greenville, East Tennessee.

Sept. 2.—Sherman's united forces occupy Atlanta, and he orders a removal of the citizens either North or South, as they should prefer.

Sept. 16.—Rebels drive 2,500 cattle safe off from behind Gen. Kautz's lines.

## EARLY'S RETREAT.

Sept. 19.—Battle on the Opequan Creek, near Winchester, between Sheridan and Early, and precipitate retreat of Early through Winchester to Fisher's Hill, leaving behind his dead and wounded, and nearly 3,000 prisoners, with five pieces of artillery and nine battle flags. The Union loss was about 3,000, including Gen. David A. Russell killed. The rebels lost two Generals. . . . . 590

Sept. 19.—Lake Erie steamers, *Parsons* and *Island Queen*, seized by rebels

1864. Sept. 22.—Sheridan pursued Early, and again routed him at Fisher's Hill, taking 1,100 prisoners and 16 guns. Early continues his flight, with Sheridan at his heels, burning and devastating the whole valley in his passage, as far as Brown's Gap in the Blue Ridge.

BATTLE AT PILOT KNOB.

Sept. 27.—Price attacked Gen. Ewing at Pilot Knob with a force of 10,000. Ewing, having but 1,200 men, stoutly resisted him till night, when he blew up his works and retreated to Rolla. Price moved North, and was followed by A. J. Smith, with 6,000 men.....587

Sept. 29.—Battle of Chapin's Farm, near James River; rebel works taken.  
" —Butler captured Fort Harrison, one of the outposts of Richmond, with fifteen guns.

Oct. 2.—Battle of Round Top Mountain. Torbert chasing Rosser twenty-six miles.

Oct. 9.—Sheridan attacked by Rosser with a large body of cavalry, but he defeated him and took 300 prisoners and 11 guns, causing him to flee rapidly for 26 miles.....590

Oct. 12.—Death of Roger Brooke Taney, Chief-Justice of the United States. He was appointed to this high office by President Jackson, as successor to Chief-Justice Marshall in 1836, which office he held until his death.

Oct. 18.—Price reached Lexington, driving Gen. Blunt, with a force from Kansas, before him.....578

BATTLE AT MARAIS DES CYONES.

Fight between Price and Pleasanton and the united forces of Curtis, on the Big Blue River, Ark. Price routed and fled southward, pursued by Pleasanton.....587

Sheridan visits Washington, leaving his army under command of Crook.....590

BATTLE OF CEDAR CREEK.

Oct. 19.—Early being heavily reinforced, hearing of Sheridan's absence, made a forced and secret march, and reached the Union camps at Cedar Creek during the night. At break of day, under a dense fog, with a deafening yell, and amid the blaze and crash of 10,000 muskets, he captured the camps, and the panic-stricken army fled in confusion before a line of battle could be formed. The army pursued to the third position, occupied by Gen. Wright, who covered the retreat of the fugitive army, himself retreating while the enemy were plundering the deserted camps.....590

Oct. 19.—Rebel refugees from Canada rob banks and citizens at St. Albans, Vt.

SHERIDAN'S RIDE.

Oct. 19.—Returning from Washington, Gen. Sheridan slept at Winchester, and was leisurely riding along, thirteen miles from the front, when he heard the sound of battle, and soon met the flying fugitives of his army. Putting spurs to his horse, he reached the front by 10 A. M., and cheering the disheartened soldiers with assurances of success, and assuring them by his presence, the retreating and crestfallen army turned and were suddenly transformed into valiant soldiers, eager for victory. At 3 P. M. the order was given for the entire Union line to advance. In an instant it moved swiftly and boldly on the enemy's position, under a tremendous fire of artillery and musketry. Falling back, they were again roused to one grand overwhelming

1864. charge by their gallant commander, when the rebels gave way, and the late victorious, and exulting rebel army were in turn now fleeing, a panic-stricken mob, before the charge of the brave and gallant Sheridan, who pursued them through Strasburg to Woodstock, fifteen miles beyond. The Union army slept that night, as it had fought all day, without food. They captured 1,500 prisoners and 23 guns, besides retaking the 24 lost in the morning. This notable victory closed the war in Shenandoah Valley.....590

Oct. 25.—Price again routed by Pleasanton at *Marias des Cygnes, Ark.*, leaving 8 guns, 1,000 prisoners, two Generals, and other officers.....587

#### LIEUTENANT CUSHING'S FEAT.

Oct. 27.—*Rebel ram Albemarle* destroyed in the Roanoke by a torpedo, which Lieut. Cushing secretly affixed to her, and swimming back under a heavy fire he escaped to the Union vessels in the offing.....586

Oct. 31.—Plymouth retaken by a fleet under Com. McComb.....586

#### UNION SUPPLIES BURNED.

Burning of Union supplies and vessels to the amount of \$1,500,000 at Johnsonville, Tenn. The store buildings took fire from the Union vessels, which were burned to prevent their capture by the enemy.....592

Nov. 8.—McClellan resigns his commission.

#### LINCOLN'S RE-ELECTION.

Nov. 8.—Abraham Lincoln was elected by an overwhelming majority to a second term in the President's Chair, with Andrew Johnson of Tenn., as Vice-President, the soldiers voting nearly four to one in his favor—the Republican platform being "The Re-establishment of the Union without Slavery." The Democratic platform, with McClellan for its candidate, was either the separation of the Union or its re-establishment with slavery.....593

Nov. 11.—Sherman sent his last message by the telegraph connecting with the North, severed the last wire, and moved from Atlanta, scattering the rebel forces before him, and destroying the railroads, and subsisting upon the invaded territory, and accumulating stores for the future supply of his army.

Nov. 25.—A gang of rebel incendiaries fire several hotels in New York, and Barnum's Museum, but fortunately without success.

Nov. 30.—Battle of Franklin, Tenn. Hood attacks Schofield, and after a fierce and savage fight with bayonets and clubbed muskets, the battle ceased at ten p. m., with victory on the side of the Unionists—the rebels losing 6,000 and Union loss 2,300.....543

Dec. 1.—Hood prepares for siege before Nashville.

#### SLAVERY ABOLISHED.

Dec. 6.—The Thirteenth Amendment to the Constitution passed, abolishing and forever prohibiting slavery throughout the United States.

Dec. 6.—Salmon P. Chase appointed Chief-Justice in place of Roger B. Taney, deceased.

Dec. 10.—Savannah completely beleaguered, and Sherman communicates with the fleet.....595

Dec. 13.—Capture of Fort McAllister.

" 15-16.—Battle of Nashville. Hood's army, fatally defeated by Gen. Thomas, fled in dismay, pursued by Wilson's cavalry.

Dec. 20.—Evacuation of Savannah by Harden.....595

CAPTURE OF SAVANNAH.

1864. Dec. 22.—Sherman enters Savannah with his army and captures 25,000 bales of cotton, 150 cannon, and large quantities of ammunition. He sends the news to ' President Lincoln as a Christmas present to the nation.'...595  
 Dec. 18-20.—Gen. Stoneman, raiding in Southwestern Virginia, has a severe fight with Breckenridge, defeating him.  
 Dec. 19.—The President orders a draft of 300,000 more men unless prevented by volunteers.  
 Dec. 24-25.—Butler and Porter attack Fort Fisher, N. C., in vain.  
 War between Ecuador and Spain.
1865. Jan.—Surrender of the Republican forces in Mexico, under Diaz, to the Imperialists.  
 War declared by the Argentine Republic against Paraguay.

FREEDMEN'S BUREAU.

- Establishment of the Freedmen's Bureau, an organization to protect the liberated slaves, the refugees from the tyranny of the secessionists, and for the further protection of the rights of Government property, and of the loyal people in the South, and especially for the education and protection of the colored race. Gen. Oliver O. Howard appointed its head, or chief commander.
- Jan. 8.—Blair and Singleton visit Richmond to treat for peace.  
 " 15.—Surrender of Fort Fisher to Gen. Terry, after a terrible resistance of three days, and the accidental blowing up of the magazine, killing and wounding 300 of the victors.....596  
 Jan. 16.—Sherman sets apart lands for freedmen from Charleston southward.

BOMBARDMENT OF WILMINGTON.

- Jan. 22.—Wilmington, N. C., surrendered to Gen. Terry, after suffering a terrible fire for three days. The next morning the magazine blew up, killing 200 Unionists and wounding 100 more.  
 Jan. 31.—Constitutional amendment abolishing slavery submitted by Congress to the States.  
 Feb. 1.—Sherman leaves Savannah and starts northward.....595  
 " 3.—President's conference with rebel commissioners.

SURRENDER OF COLUMBIA.

- Feb. 17.—Columbia, the capital of South Carolina, surrendered to Sherman by Gen. Beauregard. Gen. Wade Hampton setting fire to the stores of cotton before he left, the flames were communicated by a high wind to the city, and a great portion of the city burned in spite of the labors of the Union soldiers to prevent the spread of the flames.....595

SURRENDER OF CHARLESTON.

- Feb. 18.—Surrender of Charleston by its Mayor, with all its surrounding forts, to Gen. Gilmore, and its occupation first, by a colored regiment, wearing the National uniform and bearing the National flag. The greater portion of the city was destroyed by the fire from the burning cotton, which the rebels set, and the explosion of large quantities of powder. 200 persons were killed.....595  
 Feb. 19.—Gen. Schofield captured Fort Anderson. Georgetown hastily evacuated.....596

1865. March 8-9.—Gen. Canby captures Spanish Fort and Fort Blakely, the defenses of Mobile.
- March 16.—Battle of Averysboro, N. C. Hardee withstands Sherman, but retreats in the night. . . . . 596
- Emancipation amendment thus far adopted by 16 States.
- March 19-20.—Battle at Bentonville, N. C. Johnston, with his whole army, attack a division of Sherman's army, under Slocum. Johnston hastily retreated during the night of the 20th. . . . . 596
- March 22.—Gen. Thomas sends a large force of cavalry, under Gen. James H. Wilson, to raid in Northern Alabama. They attacked Forrest at Boyle's Creek and completely routed him . . . . . 596
- March 25.—Rebels take Fort Steadman, before Petersburg, but are quickly expelled, losing 2,500.
- March 27.—Sherman turns over his whole army to Schofield and hastens to City Point to consult with President Lincoln and Gen. Grant. . . . . 596

## DAVIS FLEES FROM RICHMOND.

April 2.—Last grand assault of the Army of the Potomac upon the Confederate forces under Gen. Lee, during which the rebel Gen. Hill was killed. A telegram the same day from Gen. Lee to Jeff. Davis reached him while in church, stating that Richmond must be evacuated that evening, sent consternation throughout the city, and Davis fled to the South, closely followed by Lee.

## FALL OF RICHMOND.

April 3.—Richmond, the capital of the Confederate States, surrendered. Flight of Jefferson Davis, the Confederate President, and commander-in-chief of the Southern armies. The city was evacuated by night, and on the morning of the third, Gen. Weitzel, with a colored brigade, entered the city and planted the Stars and Stripes upon every prominent point. The morning of the 4th President Lincoln arrived, and leading his little son by the hand, walked from the boat-landing to Gen. Weitzel's headquarters. The colored people thronged about him, blessing him as he passed, and he was joyfully received by the remaining white people—the rebel element leaving with the Confederate army.

## LEE PURSUED.

Sheridan and Meade pursued Lee, who was fleeing with the remnant of his army toward Danville.

April 5.—Selma, Ala., captured with large stores, 2,700 prisoners, and 32 guns. Forrest and Rhoddy escaping in the night.

## SHERIDAN CAPTURES LEE'S FORCES.

April 6.—Sheridan attacked a portion of Lee's forces near Sailor's Creek, capturing 16 pieces of artillery, and a train of 400 wagons, and being reinforced, a general attack was made, which resulted in a decided defeat of the enemy and a capture of 6,000 or 7,000 prisoners, with Gens. Ewell and Custis, and several other officers of rank.

April 7.—GRANT DEMANDS A SURRENDER OF THE SOUTHERN ARMY.

" 8.—Meade and Sheridan continue the pursuit of Lee, and capture his provision train and 25 pieces of artillery, intercepting his flight.

## PRESIDENT'S ADDRESS.

April 9.—Address at the Executive Mansion, in Washington, of President Lincoln, to a vast concourse of people, on the reconstruction of the Government.

## SURRENDER OF LEE.

1865. April 9.—Last charge of the defeated enemy, and surrender of the Southern army under Gen. Robert E. Lee to Lieut.-Gen. U. S. Grant at Appomattox.

April 11.—Blockade changed by proclamation to legal closure of ports.

“ 12.—Canby's troops enter Mobile, the siege having lasted since March 11.

April 12.—Montgomery surrendered to Wilson.

“ 13.—President Lincoln instructed the Secretary of War to issue an order, putting a stop to further drafting, receiving of or purchase of war material; and announced the speedy removal of restrictions upon trade and commerce.

April 14.—The anniversary of the surrender of Fort Sumter to the rebels; its old flag was again raised over the battered walls by the brave and gallant Anderson, who had so valiantly defended it in 1861.

## ASSASSINATION OF ABRAHAM LINCOLN.

April 14.—By the hand of the assassin, John Wilkes Booth, President Lincoln was shot, while witnessing a play from a private box in Ford's Theatre, Washington, D. C. The bold perpetrator of the deed rushed madly to the front of the box, and, with a drawn dagger, leaped upon the stage below, and escaped, amid the terrible confusion which ensued. The unconscious and bleeding form of the President was borne across the street to a private house, where he expired at half-past seven the next morning, surrounded by his family, his Cabinet and the leading men of the Government. He was attended by the ablest medical skill of the city, but nothing could awake to life or consciousness the giant brain whose motion and thought was forever stilled by that fatal messenger of death. As the lightning sped the news of this terrible tragedy over the myriads of wires, from one end of this vast republic to the other, there went up one universal and prolonged wail of grief and anguish from the hearts of its loyal millions, who loved and revered the name of Abraham Lincoln, as dutiful children revere the name of a beloved and honored parent. Never before was this great nation so shocked, so completely overwhelmed with grief, at the death of any man—ruler or civilian—as that caused by the fall of their chieftain. Strong men wept who were unacquainted with tears, and a universal pall hung over the hearts of the whole people like the cloudy curtain which darkened the noonday sun at the Crucifixion of the Saviour; for, to millions of aching hearts he had been a deliverer from a cruel bondage as well as the saviour of the country from the hands of its destroyers. There was not a hamlet so humble or remote that did not respond to the sorrowful tidings with the emblems of mourning, and cities and towns seemed almost to vie with each other in their solemn and funeral pomp. The orators and poets gave vent to the universal spirit of sadness in lengthened lines of eloquent eulogy and measured metre of mournful song, and all hearts took up the refrain,

“Gone, in his noble manhood, down,

We blindly question, why?

When bells, and guns, and muffled drums

Alone make sad reply.”

It was truly said that his funeral procession extended fifteen hundred miles—from Washington to Springfield, Ill. For miles, in some places, the saddened citizens grouped along the railway, with heads uncovered and eyes overflowing with tears, as the solemn funeral train swept past. He was finally interred in a beautiful and appropriate tomb in Springfield, where his honored dust is revered as something sublimely sacred.

- ASSAULT UPON SECRETARY SEWARD.
1865. April 14.—Attempted assassination of Secretary Seward by Payne, Booth's confederate. He entered the sick chamber of Mr. Seward under pretense of bringing a prescription from his physician—assaulted and wounded Mr. Seward's son at the door, fell upon Mr. Seward upon his bed and stabbed him several times before he was arrested. Great consternation ensued when it was learned that it was a result of a great conspiracy, among the rebels, to assassinate the President and his Cabinet and take violent possession of the Government.
- April 15.—Inauguration of Andrew Johnson as President of the United States.
- April 16.—Columbus taken by Wilson.  
 “ —West Point, with its garrison, captured by La Grange... .596
- SHERMAN'S PEACE.
- April 18.—Agreement between Sherman and Johnston for suspension of hostilities with a basis for peace, which was rejected by the President.
- SURRENDER OF MACON.
- April 21.—Wilson entered Macon, and 1,200 militia, with five Generals, were surrendered by Gen. Howell Cobb.....597
- CAPTURE OF BOOTH.
- April 26.—Booth discovered in a barn in Virginia, and, refusing to surrender, was shot.....591
- JOHNSTON'S SURRENDER.
- April 26.—Surrender to Gen. Sherman and disbandment of Johnston's army upon the same terms of Lee's surrender.
- LOSS OF THE "SULTANA."
- April 28.—Steamer *Sultana* burned near Memphis. 1,500 souls lost out of 2,106.
- May 1.—An alliance formed between Argentine Republic, Uruguay, and Brazil to conquer Paraguay.
- May 4.—Surrender of Gen. Dick Taylor to Gen. Canby.  
 “ 9.—Assassins of Mr. Lincoln put upon trial at Washington.
- CAPTURE OF JEFF. DAVIS.
- May 11.—Capture of the rebel President, Jefferson Davis, near Irwinsville, Ga., by a force of Wilson's company at Macon, commanded by Lieut.-Cols. Pritchard and Harden. He was disguised as a woman.
- GRAND REVIEW OF THE ARMY.
- May 23-24.—The Union army at Washington pass in grand review before the President and Cabinet, Foreign Ministers, and a vast concourse of people.....599
- GEN. SMITH'S SURRENDER.
- May 26.—Surrender of Gen. Smith, with his entire command, to Gen. Canby, in Texas.
- LAST CONFLICT.
- May 27.—Last conflict of the war on land took place on the Rio Grande. Gen. Stoughton, with a superior force, drove Col. Barrett, with a loss of 80 men, into Brazos.

1865. May 29.—President Johnson proclaims an amnesty with 14 different exceptions.

May 30.—Second Sanitary Fair at Chicago. A fund raised of \$200,000.

## BURNING OF UNION STORES.

June 10.—Great fire at Nashville, burning eight or ten million dollars worth of U. S. stores and property.

June 15.—Last rebel fort yielded. Galveston quietly occupied by Admiral Thatcher.

June 23.—Up to this date the pirate *Shenandoah* had destroyed 10 whalers. Trade restrictions removed and blockade ended.

## HANGING OF THE ASSASSINS.

July 7.—The assassins, Harrold, Payne, Atzeroth, and Mrs. Surratt, hung at Washington; the others, Arnold, Mudd, Spangler, and McLaughlin, imprisoned for life.

July 13.—Barnum's Museum, New York, destroyed by fire.

Aug. 15.—Wirz, keeper of Andersonville prison, put upon trial.

Mississippi nullified secession ordinance and accepted emancipation.

Sept. 12.—Alabama declared the ordinance of secession null and void, abolished slavery, and repudiated the rebel debt.

Sept. 14.—Rebel Indian Chiefs sign treaty of loyalty with the United States.

Sept. 15.—South Carolina repealed the secession ordinance and declared slavery abolished.

Sept. 23.—Alabama Convention recognized emancipation.

" 29.—Gov. Sharkey, of Mississippi, recognized by proclamation the rights of the negro.

Oct. 2.—Government of Cuba surrendered the pirate *Stonewall* to the United States.

Oct. 7.—North Carolina declared secession null and void, prohibited slavery in the State forever, and repudiated the rebel debt.

Oct. 11.—Alex. Stephens and other prominent rebels released from Fort Warren.

Oct. 11.—Ferguson the guerrilla hung in Nashville, and Magruder the guerrilla hung in Louisville.

Oct. 12.—Martial law declared ended in Kentucky by the President.

" 25.—Florida annulled the secession ordinance.

Nov.—The pirate-ship *Shenandoah* cruised in the Pacific, capturing numerous Union merchant ships and whalers, and during this month proceeded to the Mersey and surrendered to the English Government.

Nov. 10.—Wirz executed at the old Capitol prison.

" 13.—South Carolina passed the Constitutional Amendment.

Dec. 1.—Writ of *habeas corpus* restored in the Northern States by the President.

Dec. 2.—Alabama ratified the Anti-slavery Amendment.

" 4.—Georgia declared slavery abolished, and nullified her war debt.

" 6.—Florida declared slavery abolished.

1865. " 18.—Sec. Seward officially declared slavery abolished throughout the United States.  
 Dec. 28.—Florida ratified the Thirteenth Amendment.  
 Dom Pedro, Emperor of Brazil, emancipates the Government slaves.  
 There were 354 fires this year, where the loss was upward of \$20,000, at which property valued at \$43,419,000 was destroyed.  
 Losses by fire from 1855 to 1865, inclusive, amounted to \$214,588,000.  
 Smithsonian Institute at Washington badly burned; the meteorological department suffered severely.
1866. Jan. 12.—Order by Gen. Grant for the protection of loyal citizens in the South.  
 Jan. 22.—Free School bill defeated in the Tennessee Senate.  
 Apr. 3.—Proclamation of the President declaring the insurrection ended in the rebellious States.  
 Apr. 2.—Civil Rights bill passed the Senate over the President's veto by a vote of 33 to 15, and the House on the 9th, by a vote of 123 to 41, and became a law.  
 May 29.—Death of Brevet Lieut.-Gen. Winfield Scott.

## FENIAN INVASION.

June 1.—Fenian invasion into Canada, under command of Col. O'Neil, but which was soon suppressed by the Canada Volunteers after a sharp skirmish. A number of the Fenians were taken prisoners, and nine Volunteers killed and several wounded.

## FOURTEENTH AMENDMENT.

June 8.—The 14th Constitutional Amendment passed the Senate by a vote of 33 to 11, and the House, on the 13th, by a vote of 120 against 32.  
 June 17.—Death of Hon. Lewis Cass, an American statesman.

## BURNING OF PORTLAND, ME.

July 4.—A fire caught from a fire-cracker thrown among some shavings in a cooper-shop by a boy, which spread, and swept away one-half of the city of Portland, Maine. Hundreds of families were made destitute, and scores of wealthy men became poor in an hour's time. 1,600 buildings burned; \$15,000,000 worth of property was destroyed.

July 23.—Tennessee Representatives and Senators admitted to Congress, by a resolution passing both Houses.

July 27.—Successful laying of the Atlantic cable.

" 30.—New Orleans massacre.

Visit of Queen Emma, of the Sandwich Islands, to the United States.

Indians massacred 93 soldiers near Fort Kearney, Neb.

1867. Military government established in the rebellious States over the veto of the President.

Tenure of Office bill passed by Congress, limiting the powers of the President to removal of officials.

Jan. 4.—Congress passed the Confiscation and Amnesty bill.

" 11.—A National Equal-Rights League Convention of colored men met at Washington and adopted an address to Congress.....601

## A DARING FEAT.

1867. The *Nonpareil*, or American Life-Raft, with three men, crossed the Atlantic Ocean, from New York to Southampton. It was a frail craft, 12 1-2 feet by 24, and was constructed by lashing three pointed cylinders together and placing a flooring of canvas and boards upon it. It arrived safely, without leakage or damage of any sort.

Jan. 18.—Samuel Downing, the last Revolutionary soldier, died in Edinburgh, N. Y., aged 105.

Jan. 20.—Death of Nathaniel Parker Willis, an American poet, essayist, and journalist of wide reputation.

Feb. 7.—Mr. Peabody gave \$2,100,000 for education at the South.

March 3.—Alaska was ceded to the United States in consideration of the sum of \$7,200,000.

April 26.—Japanese Commissioners in Washington.

May.—By an act of British Parliament the Canadian provinces of Ontario, Quebec, New Brunswick, Prince Edwards Island, and Nova Scotia were federally united into one Dominion of Canada.

Canada purchased the territory belonging to the Hudson's Bay Co.

May 13.—Jeff. Davis bailed for \$100,000 by Horace Greeley and others.

Negotiations opened for the settlement of the Alabama Claims .....602

July 1.—"New Dominion of Canada" inaugurated at Ottawa.

Aug. 12.—President Johnson removed Mr. Stanton, as Secretary of War, and authorized Gen. Grant to act in his place *ad interim*.

Oct. 13.—Death of Elias Howe, inventor and patentee of the sewing-machine.

Nov. 19.—Death of Gen. Fitz Greene Halleck, at Guilford, Ct., aged 77.

The Fourteenth Amendment ratified by a majority of the States.

1868. Jan. 21.—Senate transfers jurisdiction over the Southern States from President Johnson to Gen. Grant.

Feb. 24.—House of Representatives voted to impeach President Johnson.....602

May 19.—Nomination of Gen. Grant for President at Chicago by the Soldiers' and Sailors' Convention.

May 22.—National Republican Convention met in Chicago and nominated Gen. Grant for President and Schuyler Colfax for Vice-President; Grant polling 650 votes of the Convention.

May 23.—Brevet Brig.-Gen. Christopher Carson, better known as "Kit Carson," a famous mountaineer, trapper, and guide, died from a rupture of an artery in the neck at St. Lynn, Col.

The President censured by Congress for the removal of Gen. Sheridan from the Governorship of the Fifth Military District (Texas and Louisiana).

June 1.—Death of James Buchanan, 15th President of the United States.

## MATHEW VASSAR.

June 23.—Mathew Vassar, founder of Vassar College, died in Poughkeepsie, N. Y. He donated an aggregate of \$800,000 for its endowment, repair, and furnishing. He died very suddenly while addressing the trustees at the anniversary of its opening.

July 4.—The President issued a full pardon and amnesty proclamation.

1868. July 4.—National Democratic Convention met in New York, nominating Seymour and Blair.  
 July 28.—Mr. Seward, Secretary of State, issued a final proclamation that the Fourteenth Amendment to the Constitution of the United States had been adopted.  
 Aug. 11.—Death of Thaddeus Stevens, an American statesman and reformer.  
 Nov. 3.—Gen. Grant was elected President and Schuyler Colfax Vice-President.  
 Dec. 14.—House of Representatives denounces repudiation of the national debt.
1869. Death of Franklin Pierce, the fourteenth President of the United States.

## IMPEACHMENT TRIAL.

Feb.—Andrew Johnson, President of the United States, tried for high crimes and misdemeanors; thirty-five members found him guilty, and nineteen not guilty; he was acquitted.

Feb. 6.—*Nolle prosequi* ends prosecution against Jeff. Davis.

“ 25.—Passage of the Fifteenth Amendment Bill enfranchising the colored man.

March 4.—Inauguration of Gen. Grant as President.

The Supreme Court pronounced Confederate money to be worthless.

## PACIFIC RAILROAD COMPLETED.

May 10.—The grand event of the nineteenth century. The completion of the great Pacific Railroad—the length of which is, exclusive of branches, over 2,000 miles, and crossing nine distinct mountain ranges, which were tunneled in several places; also, many wonderful bridges were built, spanning chasms of fearful and precipitous depth. This great enterprise was begun in 1863 and completed in 1869.

## GREAT PEACE JUBILEE.

June 15-20.—A peace jubilee and musical festival was held in Boston in honor of the restoration of the Union of the States. There were 10,000 singers, and an orchestra of 1,000 instruments, and tens of thousands of spectators. It was held in the Coliseum, an immense building erected for the purpose, and was conducted by Prof. P. S. Gilmore.

## GRANT FAVORS LABOR.

Eight-hour system with ten hours pay for Government employés ordered by President Grant.

Colored People's Convention in Washington, Frederick Douglass presiding, pronounced against emigration to Liberia.

July 11.—Irish National Republican Convention held in Chicago, adopting a resolution requesting Congress to pass a law for the naturalization of foreigners after one year's residence in the United States.

July 24.—French Transatlantic cable laid in the Bay of Minon, near Brest, reached Duxbury, Mass.

Aug.—National Labor Convention met in Philadelphia, re-affirming the eight-hour system.

Aug. 7.—Total eclipse of the sun.

Temperance and Prohibition Convention met in Chicago.

## BLACK FRIDAY.

1869. Sept. 24.—The terrible Wall Street Panic. A memorable day in New York. The panic was produced by the gamblers in gold, or the "bears" and "bulls" of Wall Street, controlled by the Fisk-Gould ring, who produced a "corner" on gold, selling in short sums until about \$15,000,000 were thrown upon the market, when the "gambling" began. The railroad stock gamblers had for weeks been playing a desperate game, and the excitement becoming intense, the great gold "manipulators" of Wall Street began their raid. They ran up the price of gold from 137½ to 166. The "bulls" went into the fight determined to win if they ran gold up to 200, but at 166 they collapsed. The Secretary of the Treasury, Mr. Boutwell, with the advice and by order of the President, sold \$4,000,000 of gold on the street. This broke up the "corner," and saved hundreds from ruin. The Fisk-Gould ring, designing to control the market, had implored the Secretary to loan them a large amount, but the Government preferred to place the gold in the market. The total depreciation in stocks and gold, for the week ending October 1st, amounted to \$100,000,000.

The Gold-room presented a scene of the wildest excitement. Money was loaned at 500 per cent. per annum. When the bids reached 155, men shrieked and raved like wild beasts. The room was filled with curses, and men rushed about in paroxysms of fury. Speyer, a large operator, became crazed, and raved like a madman, and was taken home by his friends. The Stock Exchange was deserted, all rushing to the Gold-room to witness the death struggles of the "bulls." The scene outrivaled any low gambling den—men at a "prize fight" do not so utterly forget themselves and their humanity, as did these great Wall Street brokers. They were more like a pack of famished wolves coming suddenly upon fresh blood. Outside the excitement was almost as intense. New Street was packed, and all travel was shut out; all were watching with strained eyes the dial that marked the fluctuations of the Gold-room. The struggle to reach the Gold-room was worse than a scene at a large fire; men were pushing and jamming to get out, and fighting to get in. Fisk and Gould left the streets, and could not be found. Men were everywhere threatening the life of Fisk. The bankers and brokers sent 2,232 messages over their wires on that day, and the other lines were in proportion burdened with the exciting dispatches. All confidence was destroyed in the markets and in trade. Millionaires were hourly becoming beggars, and mushroom operators suddenly found themselves worth *millions less than nothing*. Wholesale dry-goods houses refused to sell goods, as they could not determine the prices to place upon them.

National Woman's Suffrage Convention, Rev. Henry Ward Beecher presiding.

Dec. 10.—National Colored Labor Convention met and sent a delegation congratulating President Grant, and offering him the support of all colored laborers, because he had opened the gates of the navy yard, and other departments of skilled labor, to their race.

The census makes the value of the United States \$31,000,000,000.

Dec. 14.—Death of Edwin M. Stanton, LL.D., statesman and Cabinet officer.

1870. Aug. 14.—Death of David Glascoe Farragut, Admiral of the United States Navy, and one of the most illustrious of naval commanders.

Aug. 22.—President Grant issued a proclamation of neutrality in relation to the Franco-German war, and also prohibiting the American forts from becoming depots for materials of war.....605

1870. Admission of Revels, the first colored Senator, to Congress.  
 Reconstruction of the South accomplished by the admission of Representatives in Congress from Virginia, Mississippi, and Texas.  
 Aug.—National Labor Convention held in Cincinnati, which voted the immediate formation of an independent political organization known as the National Labor Reform party.  
 Aug. 22.—Proclamation of neutrality issued by President Grant, enjoining American citizens not to take any part in the Franco-German conflict.  
 Irish National Congress in Cincinnati.

KU-KLUX KLAN.

Ku-Kluxism investigated, and a dark record of murder, whipping, and violence used to intimidate the Union men and negroes for political purposes by that secret and dangerous organization revealed.

GEN. LEE.

Oct. 12.—Death of Robert Edward Lee, LL. D., an American soldier and educator, and son of Gen. Henry Lee, "the Light-horse Harry" Lee of the Revolutionary war, the personal and political friend of Gen. Washington. Robert E. Lee was a graduate of West Point in 1829. He was a Captain in the regular army when the Mexican war broke out, and when Scott invaded Mexico Lee was appointed chief-engineer of the army under Gen. Wool; and Gen. Scott attributed the reduction of Vera Cruz to his skill; and in recognition of his valuable services he was placed on the General's staff, and after the battle of Cerro Gordo, he was breveted Major; and for his gallant and meritorious conduct at Contreras and Churubusco he was raised to the rank of Lieut.-Col., and in September of the same year he received the brevet rank of Colonel for services at Chapultepec. In 1853 he was assigned the important post of Superintendent at West Point, retaining his field rank. In 1855 Col. Lee took command of a cavalry regiment which had been ordered to Texas, where he remained till 1859, fighting Indians and performing garrison duty. He then returned to Washington and took an active part in capturing John Brown, and hunting down his feeble band; but it is recorded of him that his vigilance and firmness saved the prisoners from the fury of the mob. On the 16th of March, 1861, he was commissioned Colonel of the First Cavalry, and on April 20th he sent in his resignation to Gen. Scott. He was soon after appointed commander of the Confederate forces in Virginia, and served afterward for a time on the coast with headquarters at Charleston; but he was shortly placed in command of all the Confederate forces, which position he occupied to the end of the war, or until his final surrender to Gen. Grant. Gen. Lee was a man marked by native genius, and highly endowed with manly courage and physical beauty, and was greatly endeared to the South, who truly mourned their chieftain.

- First narrow-gauge railway in the world built—the Denver and Rio Grande.  
 Manitoba made a separate province.  
 1871. The treaty of Washington.  
 Impeachment of Gov. Holden, of North Carolina, for malfeasance in office.  
 Labor Reform, Woman Suffrage, and Colored Conventions held in St. Louis.  
 Meeting of the Alabama Claims Commissioners in Washington, Hon. Hamilton Fish presiding.

1871. Congress passed an Act creating an immense public park near the head waters of the Yellowstone.

Feb. 12.—Miss Alice Cary, an American poetess and literary writer of wide reputation, died in New York city.

June 17.—Death of Clement L. Vallandigham, a Democratic political leader in Ohio.

July 16.—First exposure of "Tammany Ring" by the *New York Times*.

BURNING OF THE CITY OF CHICAGO.

Oct. 8-9.—This was the most destructive conflagration recorded in the history of civilized nations, sweeping over 2,124 acres of ground, or 73 miles of streets, destroying 17,450 buildings and their contents, with a loss of \$200,000,000 and hundreds of thousands of human lives.

GREAT FOREST FIRES.

Oct. 9.—Great fires in the forests of Northern Michigan and Wisconsin, sweeping over large districts of heavily-timbered country, burning the green pine trees as though they were the driest tinder, and enveloping small villages, settlements, and saw-mills with a cordon of fire, rendering all efforts to escape futile. Millions of dollars in property and hundreds of thousands of human lives were thus destroyed.

Hall made a third and last voyage to the Arctic seas.

Nov.—Russian Minister Catacazy dismissed for discourtesy to the United States authorities.

Nov. 8.—Death of Capt. Hall on board the *Polaris* in the Arctic seas.

Visit of the Grand Duke Alexis, son of the Emperor Alexander of Russia, to the United States, his extended tour over the land, and his generous welcome by the people.

Death of Thomas Ewing, LL.D., an American jurist and statesman.

STANLEY.

Visit of Henry M. Stanley, of the "*Herald Expedition*," to Africa, in search of the lost traveler—Dr. Livingstone.

British Columbia taken into the Dominion.

The Ku-Klux bill passed by Congress.....606

Civil Service Reform question agitated, and a board of civil service commissioners appointed.....606

Statistics of the United States census for 1870 published, giving the population of the United States 38,113,253.....606

A Joint Commission appointed between the United States and Great Britain to examine all cases in dispute. The Commission met at Washington on Feb. 27th, and, after a lengthy discussion, the Washington treaty was signed.....607

Agassiz started on a voyage round Cape Horn.

CREDIT MOBILIER.

This year the great "*Credit Mobilier*" scandal, which involved several prominent Government officials, including the Vice-President, was developed. It was an extensive corporation of stockholders of the Union Pacific Railroad, of which Oakes Ames, a United States Congressman from Massachusetts, was the leading spirit. It was claimed, that, through bribery, prominent Con-

1871. Congressmen and United States officials had voted large sums of money for the building of the Union Pacific Railroad. Large profits were derived from this money over the actual cost of construction, a share of which fell to the stockholders of this corporation.

SAMUEL F. MORSE.

1872. Samuel F. Morse, LL. D., the inventor of the electric telegraph, a painter and author, died this year. Mr. Morse was one of the founders of the National Academy of Design in New York, its first President, and a lecturer on fine arts at the New York Atheneum. Mr. Morse was also a fine portrait painter. His great invention was virtually perfected while on a homeward voyage from Europe, in 1832, and the recording apparatus and essential features were sketched upon paper before leaving the vessel, but it was not till 1835 that a line was put up, consisting of a half-mile of wire, and the experiment tested. In 1837 he gave publicity to his enterprise, by an exhibition at the University, and the same year filed his caveat at the Patent Office in Washington.

Congress voted the abolition of all political disabilities placed upon the Southern people, excepting those who had been leaders in the Rebellion.

Northwestern Boundary Question settled by the Emperor of Germany, who acted as arbiter between England and America, granting and establishing the claims of the United States.

LABOR REFORM CONVENTION.

Feb.—Labor Reform party held a Convention in Columbus, O., nominating Judge Davis, of Ill., for President and Joel Parker, of New Jersey, for Vice-President. Mr. Davis declined, and a convention of workmen met at Philadelphia and nominated Charles O'Connor, of New York for President. 607

COLORED CONVENTION.

National Colored Convention met in New Orleans, indorsing Grant's Administration, and tendering thanks to Charles Sumner for his continued efforts in behalf of the colored people. . . . . 607

GREELEY'S NOMINATION.

May 1.—The Liberal Republican party held a Convention in Cincinnati, Ohio, nominating Horace Greeley for President and Gratz Brown, of Missouri, for Vice-President.

June 1.—Death of James Gordon Bennett, a noted and remarkable, journalist.

June 5.—Regular Republican Convention met at Philadelphia, nominating by acclamation Ulysses S. Grant for President and Henry Wilson for Vice-President.

July 9.—Regular Democratic Convention held in Baltimore, indorsing the nomination of Horace Greeley by the Liberal Republicans.

ALABAMA CLAIMS.

Final settlement of the Alabama Claims, which grew out of the acts of several vessels, some of them built and manned in Great Britain, and others sailed from Confederate ports under command of the secessionists, and were used as cruisers by the rebels. They destroyed millions of dollars worth of United States property on the seas, and were permitted to sail into English ports and take on supplies of provisions and coal. \$16,250,000 were awarded to the United States by the Commission.

## EPIZOOTIC.

1872. Sept. 30.—First appearance of the epizootic in America, in Toronto, Ontario. In New York, October 18, in ten days, 40,000 horses were attacked by it, and in Brooklyn, 13,000. In less than two months it had traveled over the entire Atlantic slope, appearing in Galveston, Texas, and reaching Colorado, Wyoming, and Nevada in Jan., 1873, and California a few days later. The disease proved to be a very old one under a new name. It began about 415 B. C., re-appeared in A. D. 330, and at intervals, to the present time although 1873 was, perhaps, its first visit to the New World. It was evidently an epidemic, and during its prevalence was the cause of much inconvenience to man and great suffering to domestic animals.

Nov.—At the *Academy* in Rochester, N. Y., Susan B. Anthony and fifteen other ladies voted, for which illegality they were duly arrested.

Nov. 6.—Death of George Gordon Meade, LL. D., Maj.-Gen. U. S. A.

## THE NATIONAL GRANGERS.

A secret organization or movement among the laboring classes, especially the farmers, to unite the people through a system of universal co-operation between producers and consumers. The movement extended over nearly the entire Union, embracing all laboring or producing classes.

Nov. 9.—A fire broke out in the heart of the city of Boston and destroyed 800 buildings.

## HORACE GREELEY.

Nov. 29.—Horace Greeley, an American reformer and founder of the New York *Tribune*, died in Westchester Co., N. Y. Mr. Greeley was born of poor parents, in the town of Amherst, N. H., in 1811, and worked upon a farm till he was 15 years of age, when he entered the printing-office of the *Northern Spectator*, in East Poughkeepsie, Vt., as an apprentice, where he remained over four years, mastering his trade in all its branches. He then went to Erie, Pa., and found employment in a newspaper office, where he made many friends, and was offered a partnership in the business, though but twenty years old. In Aug., 1831, Horace Greeley arrived in New York with only ten dollars in his pocket, and a scanty wardrobe tied up in a bundle. He had never seen a city of such size, and was utterly ignorant of its ways and wonders. He began to search for work, but his verdant appearance was much against him, and he was told by Mr. David Hall, the editor of the *Journal of Commerce*, that he believed him to be a runaway apprentice from some country printing-office. Becoming discouraged, and his money about gone, he resolved to leave the city, but in the evening he fell in with some young Irishmen who took an interest in the wandering printer, and directed him to the printing-office of Mr. John T. West, who had a piece of work so difficult that no printer acquainted in the city could be induced to accept it. It was the composition of a miniature New Testament in a curiously intricate style of typography. But nothing daunted, this "green country boy" undertook the job, and by laborious and constant application from twelve to fourteen hours each day he could earn six dollars per week. Mr. Greeley next entered the office of the *Spirit of the Times*, and becoming soon on intimate terms with the foreman of the office, the two entered a partnership to establish a job printing-office, and took a contract to print a cheap daily newspaper to be sold on the streets. Owing to the incompetency of its editor it proved a failure, but the job office continued to prosper. His partner was soon after drowned, and he procured another, and in a short time the new firm started a weekly newspaper called *The New Yorker*, Mr. Greeley being the editor and his companion the publisher. This paper lived for over seven years, and arose from

1872. one dozen subscribers to over 9,000, but being conducted on the credit system was a losing speculation financially. Next Mr. Greeley became editor of the *Jeffersonian*, a Whig campaign paper, which attained a subscription of 15,000, and was admirably conducted. During the Harrison campaign Mr. Greeley conducted the *Log Cabin*, which was subsequently merged into the *N. Y. Tribune*, which paper Mr. Greeley was identified with till the time of his death. The original list of *Tribune* subscribers numbered 600, and at the end of the first year its success was established. The high character of that journal under Mr. Greeley's supervision is so well established that it is unnecessary to detail its history. Mr. Greeley was a Whig in politics, and a liberal thinker. He was elected to Congress in 1848 to fill a vacancy, and never afterward was a member of any deliberative body except the late Constitutional Convention of New York. His greatest power was exerted in the editorial chair, although his career as a lecturer was successful. Mr. Greeley was the author of several minor works, the most interesting of which was "Recollections of a Busy Life," which was his autobiography. Mr. Greeley joined the Republican party at its start, being one of its founders. When the war was over (which he aided in every laudable way), he was exceedingly anxious for peace, and bearing no malice to the South, he became one of the bondsmen to Jeff. Davis, which act lost him an election to the Senate and made him very unpopular for a while; but he still claimed he had done right. Upon his nomination to the Presidency in 1872, the stormy campaign and vituperous abuse of the press, together with the sickness and death of his wife, and lastly his defeat at the election, and his continued mental labors, all culminated in the wreck of his noble intellect and his sad death. But whatever may have been said of Mr. Greeley during the excitement of a political campaign, no man could bear him any malice, for his character was singularly pure and his nature one of the most frank and unselfish upon the political records of any nation or people.

Wm. Henry Seward, LL.D., an eminent American statesman, died at Auburn, N. Y.

Dec. 12.—Edwin Forrest, an eminent American tragedian, died in Philadelphia, his native city.

United States had 60,852 miles of railroad.

A fatal and unknown distemper visited Brazil, and carried off, in three towns, 13,000 out of 18,000 inhabitants.

1873. April 1.—Wreck of the ocean steamer *Atlantic*. 535 lives were lost.

#### MODOC MASSACRE.

April 11.—Gen. R. A. Canby was murdered by the Modoc Indians in the Lava Beds of N. California. He was a graduate of West Point in 1839, in the same class with Gen. Halleck, and served in the Florida war from 1839 to 1842. He served through the Mexican war as First Lieutenant, Captain, Lieutenant-Colonel, Major of Infantry, etc., and attained distinction for his bravery and purity of character. He was employed by the Government to bring the Modocs to accept the terms offered them by the Government; in which expedition, through the effort to use practicable measures and moral suasion with the savages, this noble and gallant officer lost his life.

#### COLFAX MASSACRE.

Massacre of over 100 negroes at Colfax, Grant Parish, La., by the "White League" setting fire to the Court-house where nearly 400 negroes were congregated for defense, and shooting them down when they attempted to escape.

1872 May 7.—Death of Hon. Salmon P. Chase, LL.D., an American statesman, Gov. of Ohio, Secretary of the Treasury, and Chief Justice of the United States.

July—Beecher and Tilton scandal breaks out.

#### GREAT SNOW STORM.

Great and extensive snow storm and severe cold in Minnesota and Nebraska. Very many lives were lost.

#### DIXON BRIDGE DISASTER.

Falling of the bridge at Dixon, Ill., which was covered with people witnessing a baptismal rite in the river. 100 lives were lost.

#### SALARY GRAB BILL.

Salaries of the Government officers and Members of Congress increased, to which great objection was raised throughout the country.

#### GREAT STORM.

Aug.—A great storm raged along the Atlantic coast. 100 vessels went down in the Gulf of St. Lawrence, and 176 sailing vessels and 12 steamers lost in the Gulf of Mexico.

Aug. 27.—National Temperance Society held at Saratoga, N. Y.

#### THE GREAT FINANCIAL CRASH.

Sept. 19.—Upon this day culminated the pent-up volcano of financial corruption which had for years been gathering its forces. For months it had been feared, and with terrific force its fury was now poured upon Wall Street, utterly paralyzing all business. The final crash was the news that the banking-house of Jay Cooke & Co., the best-known and most enterprising house in the country, had failed, and that the Washington and Philadelphia branches of the firm had also gone under. Deposits by corporations and private persons were held by this firm to the amount of \$5,000,000. The stock markets broke, and securities were sacrificed in the most reckless manner. Five important banks followed in the crash, and ruin and consternation spread throughout the country. The credit and prosperity of the country received a severe shock. The Secretary of the Treasury made the announcement, at the opening of the Forty-third Congress, "That to meet the falling off in the revenues of the Government, he must have recourse to taxation."

Oct. 3.—Execution at Fort Klamath, Oregon, of the Modoc Indians, "Captain Jack," "Schouchin," "Boston Charlie," and "Black Jim," who murdered Gen. Canby and Peace Commissioner Thomas.

#### THE "VIRGINIUS."

Oct. 31.—Capture of the *Virginus*, an American ship, near Jamaica, by the Spanish steamer *Tornado*. The *Virginus* was taken to Santiago de Cuba, with 170 passengers, 101 of whom were shot by the Spanish authorities of Cuba under the pretext that they were filibusters. The United States and British Consuls protested in vain.

Nov. 22.—Tweed sentenced to twelve years imprisonment.

#### LOUIS AGASSIZ.

Dec. 14.—Death of Louis Agassiz, the most eminent of modern scientists, also a naturalist and author, at Cambridge, Mass.

Dec.—Escape of Tweed from the New York County jail.

1873. A decision was rendered by the Supreme Court of Illinois in the case of Myra Bradwell against the State of Illinois, refusing her a license to practice law, on the ground that she was a woman.

Automatic signal telegraph was introduced and applied in New York.

The free postal delivery was adopted in all cities containing 20,000 inhabitants, and the penny postal cards introduced.

#### WOMAN'S CRUSADE.

1874. This year witnessed the most wide-spread and intense excitement upon the subject of temperance. It began in a small town in Ohio, and was the result of the efforts of a band of women who visited the saloons, holding prayer-meetings and singing religious songs and hymns. When refused admittance to the saloons, they held their meetings upon the sidewalk in front. In some places the saloon-keepers used violence in driving the women from their place of business and from the sidewalks, and in a few instances mobs of lawless men congregated and insulted the women with coarse and brutal language.

#### KING KALAKAUA.

Visit of King Kalakaua, of the Sandwich Islands. First instance of a reigning crowned head entering the United States.

Senate passed a bill to resume specie payment in 1879.

The revision of the United States Statutes adopted by Congress.

Inflation of the currency voted by Congress.

Bill to increase greenbacks \$400,000,000 vetoed by the President.

Compromise currency bill signed by the President.

Kellogg Government overthrown in Louisiana and restored by the President in five days.

#### CHARLES SUMNER.

Mar. 11.—Charles Sumner, the eminent American statesman, scholar, and author, died in Washington.

#### FIRST REGULAR LADY PHYSICIAN.

Mar.—Death of Mrs. Van Tassell, a missionary among the Ottawa Indians, who commenced her medical studies at 58 years of age. She was the first woman admitted to the full course of medical lectures in this country. She spent several years as a medical practitioner in Memphis, Tenn.

#### SECOND CHICAGO FIRE.

Another extensive fire occurred in the newly built portion of the city, destroying a great number of very fine buildings. The loss was estimated at \$4,000,000.

Gerrit Smith, an eminent American philanthropist, reformer, and statesman, died in New York city.

#### SIAMESE TWINS.

Death of the Siamese twins, *Chang and Eng*, at Mount Airy, N. C. These unfortunate creatures were for twenty-five years publicly exhibited in Europe and America, when after acquiring a joint fortune of about \$80,000, and at the age of 45, they settled down as farmers in North Carolina, and married two sisters, by whom they had each a number of children, two of the number being deaf and dumb. They were connected together at the side by a fleshy cartilaginous band about eight inches in length, compelling them to partly

1874. face each other. Chang's death occurred about two and a half hours before Eng's, and was caused by congestion of the lungs, and Eng's death was from no apparent cause, but the nervous shock produced by the death of his brother.

Death of Millard Fillmore, thirteenth President of the United States.

April 5.—Death of Judge Edmonds, an able New York jurist and philanthropist.

MILL RIVER DISASTER.

May 16.—A terrible disaster occurred in the town of Williamsburg, Hampshire County, Mass., by which 147 persons lost their lives and 1,200 were left destitute. Over \$1,000,000 of property was destroyed. It was caused by a defective reservoir of 100 acres in extent.

May 23.—Senate passed the Civil Rights bill.

June 1.—Gen. Bristow confirmed by the Senate as Secretary of the Treasury.

GRASSHOPPER RAID.

Great devastation caused by the grasshoppers throughout the Northwest, especially in Kansas, Nebraska, Missouri, Iowa, and Minnesota, during this and the following year.

CHARLIE ROSS.

July 1.—The abduction of a little boy of four years of age, son of Christian K. Ross, of Germantown, Pa., a suburb of Philadelphia. He was, with his brother, aged six years, playing upon the sidewalk before his father's house, when two men in a wagon enticed them with candy and a promise of fire-crackers to get into the wagon and take a ride. They drove in a zigzag direction about eight miles, when they gave the eldest boy twenty-five cents, and told him to go into a shop and buy some fire-crackers. As soon as he entered the store they drove off with the little one, and were never seen or heard from again, until they were both shot while in the act of committing a burglary four months after. In about a week after the child was stolen, one of the abductors wrote Mr. Ross a letter, in which he proposed to deliver up the child for a large ransom. This was the first case of brigandage, or holding a person or child for a ransom, ever attempted in this country.

July 27.—Great flood at Pittsburg and Alleghany City; about 200 lives and a vast amount of property destroyed. . . . .608

Dec. 9.—Ezra Cornell died at New York. Mr. Cornell was a philanthropist and patron of education.

At the close of this year there were 72,623 miles of railroad in operation in the United States.

Nearly \$6,000,000 of the Public Debt canceled this fiscal year.

There were 5,830 failures in business this year.

BEECHER TRIAL.

1875. Trial of Henry Ward Beecher, pastor of Plymouth Congregational Church, Brooklyn, N. Y., for adultery with Mrs. Theodore Tilton, as charged by her husband. Mr. Tilton was a prominent literary man, and editor of the New York *Independent*, also a very intimate friend of Mr. Beecher. The trial was the most noted and intensely exciting one of the kind in the annals of the world's history. Its results were most indefinite and unsatisfactory to the people, the jury disagreeing, and no verdict rendered. The leading witnesses were prominent Christians and intelligent and influential citizens, and gave the most conflicting testimony.

1875. Jan. 15.—Goid the lowest for this year, 111½.

KEELY MOTOR.

Invention of a motive power which seemed to promise a revolution in the entire mechanical world.

March 8.—Damages of \$6,537,000 awarded against Tweed in civil suit.

“ 20.—Destructive tornado in Georgia. Great loss of life and property.

April 13.—Death of Samuel R. Wells, well known professor of phrenology, and proprietor of the *Phrenological Journal*. He was, for many years, associated with the Fowlers in the advancement of the science of Phrenology.

April 22.—John Harper, senior member of the firm of “Harper Brothers,” died, aged 78.

April 25.—Burning of three steamers at the New Orleans levee; fifty lives were lost.

April-May.—Great floods in the South. Large portions of Arkansas and Louisiana inundated. Great suffering among the inhabitants, especially among the laboring classes and freedmen. Large contributions were sent from the North.

May.—Extensive forest fires in Michigan, Pennsylvania, New York, and Canada, with great loss of property and some lives.

Appearance of grasshoppers in Iowa in great numbers.

May 5.—Trial of Prof. Swing, by the Presbytery of Chicago, upon the charges of heresy and unfaithfulness in duty as pastor, preferred by Mr. Patton.

May 17.—Death of John C. Breckenridge, at Lexington, Ky. Mr. Breckenridge was chosen for Vice-President of the United States, with Mr. James Buchanan, President, and in 1860 he was the candidate for President of a sectional party at the South, and in the same year he was elected as U. S. Senator and defended the Southern Confederacy and secession in the Senate.

“DOESTICKS.”

June 25.—Death of Mortimer Thompson, a humorous writer, well known as “Doesticks.” He married, for his second wife, the daughter of Mrs. James Parton, or “Fanny Fern.” His literary name was “Q. K. Philander Doesticks, P. B.”

July 8.—Death of Hon. Francis Preston Blair, Jr., at St. Louis, an eminent politician and Congressman. He was in 1868 a candidate for Vice-President on the ticket with Gov. Seymour, of New York, as President.

July 31.—Death of Andrew Johnson, seventeenth President of the United States.

KU-KLUX IN ILLINOIS.

A band of outlaws and desperadoes in disguise, in the State of Illinois, whipping and murdering citizens and destroying their property. The citizens formed themselves into committees of scouts, under permission of the Governor, and scoured the whole country. The band was finally broken up and dispersed.

Threatened revolution in Mexico caused by the passage of liberal laws.

Aug. 26.—Sudden suspension of the great California Bank. Intense excitement in San Francisco, resembling “Black Friday” in New York, and \$1,400,000 were paid out this day. The bank had a capital of \$5,000,000.

1875. Sept.—Trial of William Westervelt for complicity in the abduction and concealing of the "stolen child," Charlie Ross. He was found guilty, and sentenced to the Penitentiary for seven years.

## FAST MAIL.

Sept. 17.—Arrival of the first fast mail train in Chicago at 6 21 A. M., which left New York at 4.17 A. M. the 16th. The train was brought into Chicago by Frank Osgood, of Elkhart, Ind., who had to make twenty-five minutes of lost time in one hundred and one miles. He fainted in the cab when the train reached the depot, so great had been the strain upon his nerves and his mental anxiety. They arrived several minutes before the expiration of the allotted time.

Oct. 5.—The highest price of gold for the year 1875 was on this day, 117 $\frac{1}{2}$ .

Nov. 22.—Henry Wilson, Vice-President of the United States, died of apoplexy at Washington, D. C.

Nov. 24.—Death of William B. Astor, eldest son and principal heir of John Jacob Astor.

Dec. 4.—Escape of Tweed from the custody of the Sheriff of New York County.

Dec. 17.—Burning of the Pacific Mail steamer *Japan*, from San Francisco to Yokohama; a great number of lives lost.

During the present year the public debt was reduced \$14,344,514.84, and the contract for refunding it renewed.

Beginning of the great revivals conducted by Moody and Sankey. Their first meeting was held in Brooklyn, N. Y., in a skating-rink, there being no other building large enough to hold the audiences.

Forest fires in Pennsylvania. Property to the amount of \$3,000,000 destroyed.

Great inundation in Texas. Four hundred lives were lost.

Severe storms in the South. Three hundred lives lost.

Threatened disturbances in Louisiana checked by the military under Gen. Sheridan.

1873. Jan.—Debate on the Amnesty bill, a Democratic measure, which proposed granting pardon to all the participants in the Rebellion who had been excluded from previous pardons. The bill received the support of 172 votes, 97 voting against it; a two-thirds majority not being secured it was declared lost. A second debate followed, which was characterized by a great deal of bitterness and party strife, with like results.

Serious difficulties between the Americans and Chinese in California, and great opposition to Chinese immigration. The white population in Contra Costa County, expelled the Chinese by force and burned their houses and property.

## WHISKY WAR.

War upon the "Whisky Rings," by Secretary Bristow, of the United States Treasury.

Indictment of Gen. Babcock, Private Secretary and personal friend of President Grant, for complicity in the whisky frauds.

Feb. 10.—Death of Hon. Reverdy Johnson, the distinguished jurist, in Annapolis, Md., aged 79.

March.—Terrible ravages of the hog cholera throughout the Western States, especially Illinois.

1876 March 6.—Burning of the Old People's Home, a Catholic charitable institution, in Brooklyn, N. Y. Eighteen aged and decrepit men were suffocated and burned to death.

March 30.—Bursting of a reservoir at Worcester, Mass. The flood carried every thing before it for nine miles, and finally settled upon a large tract of meadow land. Millions of dollars worth of property was destroyed, but no lives were lost.

April 10.—Death of Alexander T. Stewart, the proprietor of the largest retail dry-goods house in the world.

May 19.—Greenback National Convention met in Indianapolis, and nominated Peter Cooper, of New York, for President, with Senator Booth, of California, for Vice-President.

#### GENERAL CUSTER.

May 25-26.—Shocking massacre of Gen. Custer and his entire company by the Indians of Little Big Horn River, Yellowstone county. The prudence of Major Reno, and the timely arrival of Gen. Terry, saved the remainder of the expedition from the same fate.

May 30.—Great fire in Quebec; nearly 500 houses destroyed.

#### SITTING BULL.

This year is memorable for the Indian war between Sitting Bull with his hostile bands and Gen. Crook with his command of 2,000 men, who, during eight months, marched 3,300 miles. 370 Indians were captured, 350 killed, 450 wounded, 395 lodges destroyed, which represented the homes of 3,000 Indians.

#### CENTENNIAL EXPOSITION.

Grand Centennial Exposition, or celebration of the one hundredth birthday of the United States Republic, in Philadelphia. The whole nation was represented by the most skillful and complete workmanship of her artisans.

June 3.—A bill passed in the Senate authorizing the President to appoint five commissioners to treat with the Sioux Indians for the cession of the Black Hills region.

July 9.—Castle Garden, N. Y. City, destroyed by fire.

" 10.—Burning of the propeller *St. Clair* on Lake Superior. Seventeen passengers and ten of the crew lost.

Sept. 8.—Tweed arrested at Vigo, Spain, and returned to the United States.

" 12.—Death of Henry Alexander Wise, Governor of Virginia and Brig.-Gen. in the Confederate army, aged 70 years.

#### MOLLIE MAGUIRES.

Oct.—Trial, sentences, and executions of Mollie Maguire in the mining districts of Pennsylvania. A dangerous Order and secret organization which committed many cold-blooded murders.

Oct. 12.—A terrible boiler explosion at Pittsburg, Pa. Sixty persons buried in the ruins; fifty-seven killed and wounded. The shock was felt distinctly two miles from the wreck. The ruins took fire and the scene was heart-rending.

Nov.—Woman's National Temperance Convention held in Cleveland; sixteen States represented.

## ATTEMPT TO ROB LINCOLN'S GRAVE.

1876. Nov. 7.—Dastardly attempt to rob the grave of President Lincoln, at Springfield, Ill., by a couple of desperadoes, Mullins and Hughes. They were tried June 1, 1877, found guilty, and sentenced to one year each in the Penitentiary.

Dec. 5.—Burning of the Brooklyn Theater, which took fire from the wind blowing one of the flies upon the stage against a gas-jet, which was unprotected. 276 lives were reported lost, among whom were H. S. Murdock, a very popular actor, and Claude Burrongs, a young actor of rising reputation.

Dec. 21.—Passage of an extraordinary meteor from S. E. to N. W., which was witnessed from Kansas to Pennsylvania and from Wisconsin to Kentucky, and described as being as large as an ordinary washtub, with a tail nearly 400 feet in length, producing a noise, in some places, which was described as louder than a whole battery, and lighting up the sky with a vivid glow.

## CREMATION.

Dec. 6.—The first furnace built at Washington, Penn., by Dr. F. J. Le Moine and cost \$1,600.

Dec. 6.—The first public cremation was that of the body of Baron de Palm. The body was placed in the retort at 8½ A. M., and at 10.40 the cremation was declared to be complete. The direct cost of the operation was \$7.04.

## ASHTABULA HORROR.

Dec. 29.—A disaster the most appalling in its nature which ever occurred in the history of railway travel, took place at a bridge near Ashtabula station in Ohio, at about eight o'clock in the evening. A passenger-train of eleven cars, bearing 160 human beings, went down with the bridge into a dreadful chasm 70 feet in depth and into the creek below, the wreck taking fire immediately. The weather was extremely cold, and a blinding snow-storm was driving before a furious gale. One hundred persons were killed outright or burned to death.

## BELKNAP'S FALL.

This year was noted for the exposure of "official corruption" and "wickedness in high places." The "Whisky Frauds," involving the President's Private Secretary and several revenue officers; the "Emma Mine" scandal, involving the name of Gen. Schenck; and last, though not least, the Secretary of War, Gen. Belknap, charged with "bribery," or with selling Government appointments.

## BLUE GLASS MANIA.

1877. Jan.—Wonderful experiments of Gen. Pleasanton with blue glass as a healing medicine, and the marvelous cures which he claimed as resulting from its use in windows, caused a general excitement throughout the country, and advertising received a fresh impetus. "Blue glass" was offered for sale in wonderful quantities and at marvelous prices. His theory claimed that the sunlight admitted through blue glass gave a fresh impetus to the growth of vegetation and imparted life and health to the sick.

At a fire in Montreal, Quebec, the red-hot walls of a burning brick building fell outward and buried over a score of firemen beneath them; nine were killed outright and ten were very seriously injured.

## GREAT POLITICAL EXCITEMENT.

Great excitement prevailed over the whole Union in consequence of the contested election of the President. For full particulars see Peculiar cases in Presidential Elections.

1877. Jan. 4.—Death of Cornelius Vanderbilt a great capitalist and railroad king.  
 Feb. 27.—Meeting of the *Alabama* Claims Commissioners, in Washington, with Secretary Fish presiding.

EXECUTION OF LEE, THE "MOUNTAIN MEADOW" MURDERER.

Mar. 23.—Execution of John D. Lee, one of the leaders in the "Mountain Meadow" massacre, a wholesale butchery of an emigrant train by the Mormons over twenty years before. Lee was shot on the very ground where the massacre occurred. He made out a written statement, confessing complicity in the crime, but declared that he was forced to carry out the "orders of the council," which were given by Bishop Geo. A. Smith, Brigham Young's first counselor and right-hand man, that he was not responsible for the massacre; and that he repented having anything to do with it at the time, but that he was forced to carry out the project or lose his life. The witnesses in the case, however proved the entire guilt of Lee. They were Mormons, and bore united testimony, yet a Mormon jury refused to convict the participators. The evidence in the case showed that the emigrants were decoyed from their camp under pretensions of friendship and assurances of protection, when they were suddenly fired upon, and all but the youngest children, who would not be able to remember the occurrence, were killed. The wounded had their throats cut or their brains were beaten out by the Indians, as it was claimed. They were left on the ground, piled in heaps, for the wolves and wild beasts to devour. Their property was sold at auction under the express order of President Young. Over 100 innocent victims perished in this bloody slaughter by the hands of a class of people claiming to be the "Saints of God," and the only true Church of God on earth! That other participators in this bloody butchery, and especially the "heads of the Mormon Church," were not arrested and brought to justice, is a standing question for our Government to answer, and will remain a black and cursed stain upon its honor while it has a history.

April 11.—Burning of the great Southern Hotel, at St. Louis, six stories in height and covering nearly a block. Twenty persons perished and several others supposed to be lost.

May.—Terrible forest fires in Northern New York. Whole counties devastated and everything swept away; the people left destitute and fleeing in every direction for their lives.

May 6.—Surrender of 900 hostile Indians under Crazy Horse, at the Red Cloud Agency.

May 11.—The fall of the dome of the new Court-house at Rockford, Ill., killing nine men outright and wounding eleven more.

WHOLESALE POISONING.

May 14.—Poisoning of sixty miners at Streator, Ill., the result of a quarrel among the striking employes. All of the miners recovered.

May 18.—P. T. Barnum offered a reward of \$10,000 for the restoration of Charlie Ross to his parents.

May 20.—Death of Fletcher Harper, the last of the four brothers who founded the House of Harper Brothers in New York.

May 29.—A gathering of Fenians, to the number of 1,500, was dispersed at Malone, N. Y., by a body of United States troops.

GREAT FOREST FIRES.

May 30.—Great forest fires in Wisconsin and Michigan; over 1,500,000 feet of standing pine burned.

1877. May.—Great forest fires in Saguenny County, Canada. Over 1,000 families were rendered homeless and perfectly destitute. The conflagration covered a space of 1,500 square miles; 15 persons known to have lost their lives.

## OSTRACISM.

June 13.—Judge Hilton refuses to admit James Seligman, a well-known and influential banker of New York, and his family, to his hotel in Saratoga, declaring that he could not open his house to Jews.

## GREAT FIRE IN ST. JOHN.

June 20.—Destructive fire in St. John, N. B. The principal part of the city, containing forty blocks, was destroyed, and thirteen lives reported to be lost, and many missing. The loss in property was \$10,000,000 to \$12,000,000.

June 27.—Hanging of six Mollie Maguires at Pottsville, Pa.

Extra session of Congress called by the President.

July-Aug.—Great and extensive labor strikes occasioned by a general reduction of ten per cent. in wages.

## STANLEY'S RETURN.

Aug.—Return of Henry M. Stanley, the great African explorer, from his second visit to Africa, where he remained nine months making many geographical and scientific discoveries. Since his return he has prepared a large work, with a full account of his travels and discoveries.

Aug. 29.—Death of the great Mormon leader, Gov. Young, of Utah. He was Mormon President, Prophet and High Priest, and the founder of Salt Lake city.

Oct. 19.—Army appropriation bill passed.

Nov. 1.—Death of Oliver Perry Morton, United States Senator and great "war Governor" of Indiana.

Nov. 23.—Fishery Commission sitting at Halifax, N. S., gave a verdict against the United States, and awarded Great Britain the sum of \$5,500,000.

Ku-Klux bill passed by Congress.

Loss of the steamer *Alabama*, with 70 lives.

Agitation of the civil service question, and a Board of Commissioners appointed.

1878. March 2.—Death of Benjamin Franklin Wade, an American Senator of great ability and force of character.

March 4.—Bayard Taylor's appointment as Minister to Germany confirmed by the Senate.

## ORANGEMEN AND CATHOLICS

March 18.—Riot in Toronto, Canada, on the occasion of a lecture by the Irish champion, O'Donovan Rossa. A mob of 7,000 roughs surrounded the hall, breaking all the window-glass with missiles, and driving the speaker and audience from the building, 300 persons were injured—20 by pistol-shots. The affair ended in a prolonged fight between the Orangemen and Catholics.

Mar. 24.—Hanging of three Mollie Maguires in Bloomsburg, Pa.

## GRAY'S TELEPHONE.

Practical development of the telephone, invented by Elisha Gray, of Chicago, in 1874, which, in the language of the inventor, will transmit vocal sounds telegraphically.

1878. Professor A. E. Dolbear also added to improvement to the telephone the same year. In 1878 the invention became of practical utility, and was quite extensively used.

Mr. Thomas A. Edison, of Menlo Park, N. J., has also invented a telephone.

The phonograph, or sound-recorder, is a device for permanently recording and faithfully reproducing at any time or place all kinds of sounds, including those of the human voice. The speaking phonograph was invented by Mr. Thomas A. Edison, and is a purely mechanical invention, no electricity being used.

April 12.—Death of William Marcy Tweed, the great "Tammany Ring" leader, in the jail in New York city. He was the moving power in the robberies connected with the Municipal Government, when \$50,000,000 were stolen from its treasury.

May 2.—Great explosion in the Washburn flour mills at Minneapolis, Minn., the largest flouring mill in the world, causing the destruction by fire of several other large mills. Total value, \$1,500,000. 17 lives were lost.

May 10.—Senate passed the Bankrupt Repeal bill, which should be operative from Sept. 1.

May 12.—Death of Catherine E. Beecher, sister of Henry Ward Beecher and Mrs. Stowe. She was a well-known author, and a woman of rare sense and virtue. Aged 77 years.

#### WILLIAM CULLEN BRYANT.

June 12.—Death of William Cullen Bryant, the eminent American poet, at the age of 84 years.

June-July.—Riots in St. Louis between the Mayor and his marshals and the Metropolitan police; also between the Illinois and St. Louis Railroad Company and the citizens.

June-July.—Gen. John C. Fremont confirmed as Governor of Arizona.

July.—Indian outbreak in Washington Territory. Battle of Willow Springs; 49 soldiers killed. Generals Howard and Miles finally rout the Indians.

#### FROM QUEBEC TO THE GULF OF MEXICO IN A PAPER CANOE.

July 4.—Nathaniel H. Bishop started from Quebec, Canada, with a large canoe with sails, to make a trip to the Gulf of Mexico. He exchanged his boat for a paper canoe on the way in one of the New England ports, and went on his way, performing the journey pleasantly and safely in nine weeks' time.

July 12.—Panic in New York caused by a threatened riot among the Orangemen and Catholics upon the contemplated grand parade of the Orangemen on that day.

#### SUNSTROKES.

July 20.—During the week ending July 20, 145 persons died from excessive heat in the city of St. Louis, Mo., and over 50 in Chicago.

July 20.—Death of "Minnie Warren," the dwarf wife of Maj. Newell (also a dwarf) and sister of Mrs. Tom Thumb.

July 29.—Total eclipse of the sun, seen in the United States in a path 116 miles wide, extending through the Western Territories, from the British Possessions to the Gulf of Mexico.

For the year ending with July, 1878, fifteen Mollie Maguires were hung

1878 July-Aug.—Unprecedented and prolonged heat all over the United States. Great suffering and many deaths in consequence.

Aug 7-9.—Terrible storm in Central Illinois, sweeping across the State, doing much damage.

Aug -Sept —*Chinese Embassy*, among whom were several Chinese ladies, visit the United States.

Sept 3-8.—Grand parade and national tournament of firemen in Chicago; procession three miles in length.

## SILVER BILL.

Silver bill passed both Houses of Congress by more than a two-thirds vote. It was vetoed by President Hayes, but immediately passed again over his veto. Under this law the United States Mint proceeded to coin the new silver dollar.

Dec. 17.—Gold was sold in New York at par. It was first sold at a premium January 13, 1862. It reached its highest rate, \$2.85, July 11, 1864.

Dec. 27.—Death of Major-General Daniel Craig McCallum, manager of military railways during the civil war, aged 64 years.

## RESUMPTION OF SPECIE PAYMENTS.

1879. Jan. 1.—The resumption of specie payments by the Government took place on January 1, 1879, as provided by law. It took place without producing the slightest unfavorable impression. The enormous exportation and diminished importation of the previous year still continued, and soon enveloped the stagnant trade that had prevailed during the larger part of 1878. The consequence was a state of remarkable prosperity during 1879.

Feb. 2.—Death of Richard Henry Dana, editor, poet, and essayist.

March 7.—Death of Elihu Burritt, a scholar and philanthropist, born at New Britain, Conn., Dec. 8, 1810.

April 21.—Death, in New York city, of General John A. Dix, ex-Governor of New York, in his 81st year.

May 7.—The New York Legislature passed a bill fixing the legal rate of interest at six per cent.

June 10.—Both Houses unanimously passed a bill to erect a monument on the site of the house in which Washington was born.

Sept. 18.—Death, in New York city, of Daniel Drew, aged 82 years.

Oct. 9.—Collision at Jackson, on the Michigan Central Railroad. Fourteen persons killed and thirty-two wounded.

Oct. 31.—Death of General Joseph Hooker, Commander of the Army of the Potomac.

Nov. 1.—Death of Zachariah Chandler, a Senator, member of the Cabinet, and politician. He was born in Bedford, N. H., December 10, 1813. Mr. Chandler took an active part in the Presidential campaign of 1876, being the hard-working President of the Republican National Executive Committee. He was during the greater portion of his life engaged in large business enterprises, from which he had realized a handsome fortune. He was a man of commanding appearance, and possessed an excellent practical judgment, great energy, and perseverance.

1880. Jan. 3.—Death, at Malden, Mass., of Bishop Gilbert Haven, of the Methodist Episcopal Church, in his 59th year.

1880. April 18.—Tornado swept over parts of Western and Southern States, destroying much property and killing many people. The town of Marshfield, Missouri, was totally destroyed. One hundred killed and 150 wounded. The town of El Paso, Arkansas, was also destroyed.

During April and May a large portion of Southern New Jersey was laid waste by forest fires.

June 9.—The National Republican Convention at Chicago, Ill., nominated James A. Garfield, of Ohio, for President, and Chester A. Arthur, of New York, for Vice-President.

June 24.—The National Democratic Convention at Cincinnati, Ohio, nominated Major-General Winfield Scott Hancock, of Pennsylvania, for President, and William H. English, of Indiana, for Vice-President.

#### PRESIDENT GARFIELD INAUGURATED.

1881. March 4.—General Garfield inaugurated President with unusual civic and military display. The General introduces a new feature by saluting his mother and wife with a kiss at the close. Senator James G. Blaine, of Maine, Secretary of State in the new Cabinet. Great pressure of office-seekers.

#### THE PRESIDENT ASSASSINATED.

July 2.—At the railway depot in Washington, on his way to attend the commencement exercises at Williams College, of which he was a graduate, President Garfield was shot down by a pistol in the hands of Charles J. Guiteau, a disappointed petitioner for office, who had watched his opportunity for weeks. The assassin was at once arrested. Profound sensation over all the civilized world, and many telegrams expressing sympathy and sorrow sent by crowned heads and other dignitaries.

Sept. 3-7.—Michigan forest fires. Great loss of life and property.

Sept. 19.—After a lingering and most painful illness, the President dies at Elberon, near Long Branch, N. J. Great grief throughout the nation.

Sept. 20.—Vice-President Arthur privately takes the inauguration oath as President, and re-takes it more formally and publicly at Washington, Sept. 22, when he delivers his inaugural address.

Sept. 26.—The remains of President Garfield buried at Lake View Cemetery, Cleveland, O., with great pomp and ceremony. The funeral procession was more than four miles in length.

During the nine months ending September 30th, 560,000 emigrants arrive in the United States.

#### GUITEAU INDICTED.

Oct. 7.—Chas. J. Guiteau, the assassin of the President, is indicted for murder.

Oct. 10.—Special session of the Senate opened, to consider President Arthur's Cabinet appointments.

#### YORKTOWN CENTENNIAL.

Oct. 13-21.—Centennial celebration of the surrender of Cornwallis at Yorktown, Va. Family representatives of Lafayette, the Count Rochambeau, and Baron Steuben, were present. On the 18th was laid the corner-stone of the Yorktown monument, to cost about \$200,000, and be built at the national expense.

Nov. 14.—The trial of Guiteau begins, before the Criminal Court in Washington.

## A DAY OF DEATH.

1882. Jan. 7.—Death of Hon. E. W. Stoughton, of New York, late minister to Russia; also of Richard H. Dana, Jr., of Boston, poet, essayist, and lawyer, and of Chief Justice John Pierpont, of Vermont.

## GULTEAU SENTENCED.

Feb. 4.—The assassin Chas. J. Guiteau, having been found guilty of the murder of President Garfield, was sentenced to be hanged on the 30th of June next following, at which date he paid the penalty of his gigantic crime.

Great floods prevail this month in the Ohio and Mississippi valleys, causing almost unprecedented destruction of property.

## DEATH OF A POET.

March 24.—Henry Wadsworth Longfellow dies at his home in Cambridge, Mass., aged 75 years.

The bill to restrict Chinese immigration passes Congress. It was vetoed by the President April 4, but on May 8 he signed a new bill subsequently passed, limiting the time of restriction to ten years.

March 27.—General S. A. Hurlbut, Minister of the United States to Peru, died at Lima, in his sixty-seventh year.

## TERRIBLE RIVER DISASTER.

March 30.—The steamer *Golden City* was burned at Memphis, with a loss of thirty-five lives.

April 27.—Death of Ralph Waldo Emerson, "the Carlyle of America," at Concord, Mass., within a few days of completing his seventy-ninth year.

## ANOTHER AWFUL DISASTER.

July 4.—The excursion steamer *Scioto* collided with a tug-boat near Mingo Bottom, on the Ohio, and went down with fifty-nine of her passengers.

July 24.—The Hon. George P. Marsh, for many years minister to Italy died in that country, aged 81.

Aug. 1.—A river and harbor bill, providing for unusually large expenditures, was vetoed by President Arthur, but was passed again by both houses of Congress the next day.

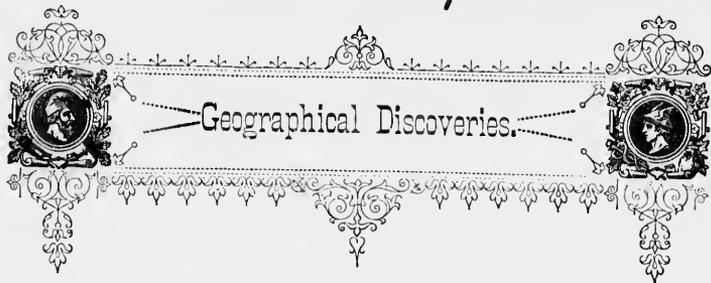
## POLITICAL TIDAL WAVE.

Nov. 7.—Result of elections a great surprise to the country. Democrats secure a large majority in the Lower House of Congress, and for the first time in the history of the Republican party elect Governors in Michigan and Kansas. They choose a Governor in New York by nearly 200,000 majority, and carry the elections by large majorities in Pennsylvania and many other States.

## TRANSIT OF VENUS.

Dec. 6.—Transit of the planet Venus. Visible in North and South America, Europe and Africa. The *entire* transit (both ingress and egress) was visible only in America. Astronomers from all parts of the globe came to America to view this great astronomical phenomenon. Careful observations were made by parties sent out by the U. S. Government with instructions prepared by a Commission on the Transit of Venus, authorized by Congress and under charge of the Secretary of the Navy. In the middle portions of the United States the weather was cloudy and the observations made were not as satis-

1882. factory as in the eastern and western portions. At the Lick Observatory, near San Francisco, the day was clear and upwards of 100 photographs of Venus were taken. At Princeton, New Jersey, 189 photographs were obtained. At Meriden, Conn., bells announced the beginning of the contact and the public schools closed. Seven telescopes, open to the public, were set on the grounds of Rev. J. T. Pettee, a prominent local astronomer, and 6,000 persons looked through them.
1883. Jan. 10.—Horrible accident at Milwaukee. Burning of the Newhall House, which took fire at 4 o'clock in the morning. At the time of the fire there were 180 persons in the house, 69 of whom lost their lives, many jumping from the third and fourth stories, only to meet death on the pavement below, while others were suffocated or burned to death. The scene was too horrible to describe more minutely.
- May 24.—Brooklyn Bridge, the largest in the world, completed. This bridge consists of single spans 1,595 feet long, suspended by cables 15½ inches in diameter; each cable consists of 5,434 parallel steel wires; the strength of each cable 11,200 tons. The approach on the New York side is 2,492½ feet and on the Brooklyn side 1,901 feet long. Total length of bridge, 5,984 feet. Height of towers at each end 277 feet. The span is 120 feet above high water. Width 85 feet, with tracks for steam cars, carriage ways and foot walks. The bridge was commenced January 3d, 1870; it will thus be seen that it was over thirteen years in construction, at a cost of fifteen million of dollars.
- May 30.—Decoration Day.—This being a legal holiday, thousands of people went to visit the new Brooklyn Bridge. For some cause a panic ensued, and people were crowded of the stairs at one end and trampled under foot by the excited crowd. About a dozen lives were lost.
- ADDENDA.
1881. May 24.—Frightful accident on the River Thames, London, Ont. 215 persons drowned by the sinking of the pleasure steamer "Victoria," from over-crowding.
1882. Apr. 20.—The Canadian House of Commons vote a request for home rule for Ireland.
- Feb. 20.—Death of Rev. Edgerton Ryerson, great Canadian pioneer of education, aged 78.
1883. Oct. 23.—Lord Lansdowne, successor to Lord Lorne, inaugurated Gov. General of Canada.
1884. Jan. 2.—Shocking accident at the Humber, near Toronto, Ont. 25 men killed, while on their way to work, by a collision on the Grand Trunk railway.
- Feb. 7.—Great floods on the Ohio River, doing immense damage to property.
- Mar. 28.—Serious riots at Cincinnati, growing out of fraudulent trials of criminals. 15 persons killed and 138 wounded.
- July 1.—Semi-centennial of Toronto.
- Dec. 16.—Opening of the World's Fair at New Orleans.
- Nov. 4.—Grover Cleveland, Governor of New York, elected President of the United States, being the first Democratic President elected since 1856.
1885. Feb. 3.—Attempted assassination, in New York, of O'Donovan Rossa, Irish agitator.



861. Ferne Islands, discovered about this time by a Scandinavian vessel.
871. Iceland, discovered by some Norwegian Chiefs, who were compelled to leave their native country. According to some accounts, it had been visited before this by a Scandinavian pirate, Naddodd.
950. Greenland, discovered by the Icelanders about this period. The first colony established there was destroyed by a pestilence in the 14th century, and by the accumulation of ice between Greenland and Iceland, all intercourse was cut off.
1002. Vinland dat Gode (Good Wine Land), a part of America, was discovered by the Northmen, Eric and Biorn.
1344. Madeira, the well-known wine-producing island, was discovered by Juan Gonzalez and Tristan Vaz, Portuguese.
1345. Canary Isles, discovered by some Genoese and Spanish seamen, having been known to the ancients.
1364. Guinea, the coast of, discovered by some seamen of Dieppe, about this period.
1418. Porto Santo, discovered by Vaz and Zarco, Portuguese.
- 1440-45. Senegal River, discovered by the Portuguese.
1446. Cape Verde, discovered by Denis Fernandez, a Portuguese.
1448. Azores Islands, discovered by Gonzalio Vello, a Portuguese.
1449. Cape Verde Islands, discovered by Antonio de Noli, a Genoese in the service of Portugal.
1471. Island of St Thomas, under the Equator, discovered.
1484. Congo, discovered by the Portuguese, under Diego Cam.  
Cape Bojador, or Nun, doubled for the first time by the Portuguese.
1486. Cape of Good Hope, discovered by Bartholomew Diaz.
1492. Lucayos, or Bahama Islands. These were the first points of discovery by Columbus. San Salvador, one of these islands, was first seen by this great navigator on the 11th or 12th of October in this year.  
Cuba, Island of Hispaniola, or St. Domingo, discovered by Columbus in his first voyage.
1493. Jamaica, St. Christopher's Dominica, discovered by Columbus in his second voyage.
1497. Cape of Good Hope, doubled by Vasco di Gama, and the passage to India discovered.  
Newfoundland, discovered by John Cabot, who first called it Prima Vista and Bacculaos.

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|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1498. | Continent of America, discovered by Columbus.<br>Malabar, coast of, discovered by Vasco di Gama.<br>Mozambique, island of, discovered by Vasco di Gama.                                                                                                                                                                  | 1524<br>1525.  |
| 1499. | Guiana and Venezuela, discovered by Ojeda and Amerigo Vespucci, under Portuguese flag.                                                                                                                                                                                                                                   | 1527.          |
| 1501. | Brazil carefully explored by Amerigo Vespucci<br>Labrador and River St. Lawrence, discovered by Cortecal, who sailed from Lisbon on a voyage of discovery for the Portuguese.                                                                                                                                            | 1530.<br>1534. |
| 1502. | Gulf of Mexico. Some of the shores of this gulf explored by Columbus on his last voyage.<br>St. Helena, the island of, discovered by Jean de Nova, a Portuguese.                                                                                                                                                         | 1535.<br>1537. |
| 1506. | Ceylon, discovered by the Portuguese. Ceylon was known to the Romans in the time of Claudius.<br>Madagascar, island of, discovered by Tristan da Cunha, and revisited by the Portuguese navigator, Fernandez Pereira in 1508. This island was first called St. Lawrence, having been discovered on the day of that Saint | 1541.          |
| 1503. | Canada visited by Thomas Aubert. Known before to fishermen, who had been thrown there by a tempest.                                                                                                                                                                                                                      | 1542.          |
| 1508. | Ascension Isle, discovered by Tristan da Cunha.                                                                                                                                                                                                                                                                          | 1545.          |
| 1511. | Sumatra, island of, discovered by Siqueyra, a Portuguese.<br>Sumatra, more accurately examined by the Portuguese.<br>Molucca Isles, discovered by the Portuguese.<br>Sunda Isles, discovered by Abrew, a Portuguese.                                                                                                     | 1552.<br>1553. |
| 1512. | Maldives. A Portuguese navigator, wrecked on these islands, found them in occasional possession of the Arabians.<br>Florida, discovered by Ponce de Leon, a Spanish navigator.                                                                                                                                           | 1575.          |
| 1513. | Borneo and Java. The Portuguese became acquainted with these islands, South Sea. The Great Ocean was discovered this year from the mountains of Darien, by Nuguez de Balboa, and subsequently navigated by Magellan. The supposition of the New World being part of India now ceased.                                    | 1576.          |
| 1515. | Peru, discovered by Perez de la Rua.                                                                                                                                                                                                                                                                                     | 1577.          |
| 1516. | Rio Janeiro, discovered by Diaz de Solis.<br>Rio de la Plata, discovered by the same.                                                                                                                                                                                                                                    | 1580.<br>1587. |
| 1517. | China, discovery of, by sea, by Fernand Perez d'Andrada.<br>Bengal, discovered by some Portuguese thrown on the coast by a tempest.                                                                                                                                                                                      | 1594.<br>1596. |
| 1518. | Mexico discovered by the Spaniards; conquered by Cortes in 1519.                                                                                                                                                                                                                                                         | 1606.          |
| 1519. | Magellan, Straits of, passed by Magellan with a fleet of discovery fitted out by the Emperor Charles V. The first voyage around the world was undertaken by this navigator; and his vessel performed the enterprise, although the commander perished.                                                                    | 1607-16        |
| 1520. | Terra del Fuego, discovered by Magellan.                                                                                                                                                                                                                                                                                 |                |
| 1521. | Ladrone Islands, discovered by Magellan.<br>Phillippines. This archipelago was discovered by Magellan, who lost his life here in a skirmish.                                                                                                                                                                             | 1607.          |
| 1524. | New France. The first voyage of discovery made by the French under Francis the First, one of whose ships, after reaching Florida, coasted along as far as 50 degrees north latitude, and gave to this part the name of new France.                                                                                       |                |

- 1524 North America, travelled over from Florida to Newfoundland by Verrizana, a Florentine, in the service of France.
1525. New Holland, discovered by the Portuguese about this time; this immense tract was for some time neglected by Europeans, but was visited by the Dutch, at various periods, from 1619 to 1644.
1527. New Guinea, discovered by Sanvedra, a Spaniard, sent from Mexico, by Cortez.
1530. Guinea, the first voyage to, made by an English ship for elephant's teeth.
1534. Canada, visited by Cartier, of St. Malo; a settlement having previously been made in 1528, by Verrizani, who took possession in the name of Francis I. of France.
1535. California, discovered by Cortez.
1537. Chili, discovered by Diego de Almagro, one of the conquerors of Peru.
1541. Labrador, discovered by a French engineer, Alphonse.
- India, the first English ship sailed to, for the purpose of attacking the Portuguese.
1542. Japan, discovered by the Portuguese, Antonio de Meta and Antonio de Peyxoto, who were cast by a tempest on its coast.
1545. Potosi, mines of, discovered by the Spaniards.
1552. Spitzbergen, observed by the English, but mistaken for part of Greenland. Visited by Barentz, a Dutch navigator in search of a north-east passage, in 1596.
1553. White Sea. This sea, which had not been visited since the time of Alfred, was now supposed to be discovered by Chancellor, the English navigator.
- Nova Zembla, discovered by Willoughby, an English seaman.
1575. Solomon's Isles, discovered by Mendana, a Spaniard, sent by the Governor of Peru.
1576. Frobisher's Strait, discovered by the English navigator whose name it bears.
- Greenland further explored by Frobisher, who also penetrated farther between this country and Labrador.
1577. New Albion, discovered by Drake, who was the second to attempt a voyage round the world, which he performed in three years.
1580. Siberia, discovered by Yermak Timophelevitch, Chief of the Cossacks.
1587. Davis' Straits, discovered by the English navigator whose name it bears, in his voyage for the discovery of a north-west passage.
1594. Falkland Islands, discovered by the English navigator, Sir John Hawkins.
1596. Marquesas, discovered by Mendana, a Spaniard, on his voyage from Peru to found a colony in the Solomon Isles.
- Solitary Island, discovered by Mendana on the above-named voyage.
1606. Archipelago del Espirito Santo, discovered by Guirns, a Portuguese sent from Peru. These islands are the cyclades of the Bougainville, and the New Hebrides of Cook.
- Otaheite, supposed to be discovered by Guiros, who named it Segittaria.
- 1607-10. Hudson's Bay, discovered by the celebrated English navigator, Hudson, on his third voyage. Venturing to pass the winter in this bay on his fourth voyage, he was, with four others, thrown by his sailors into a boat, and left to perish.
1607. Chesapeake Bay, discovered by John Smith.

1615. Straits of Le Maire, discovered with the island of Staten on the east, by Le Maire, a merchant of Amsterdam, and Schouten, a merchant of Horn.
1616. Cape Horn, doubled by Le Maire and Schouten, Dutch navigators, who called it after the town of which Schouten was a native.  
Van Dieman's Land, discovered by the Dutch.  
Ballin's Bay, discovered by William Ballin, an Englishman.
1636. Frozen Ocean. In this year the Russians discovered that this ocean washed and bounded the north of Asia. The first Russian ship sailed down the Lena into this sea.
1642. New Zealand, with the southern part of Van Dieman's Land, discovered by Tasman, a Dutch navigator.
1654. Bourbon, isle of, occupied by the French.
1673. Louisiana, discovered by the French. This country received its name from La Salle, a Frenchman, who explored the Mississippi, in 1682.
1686. Easter Islands, discovered by Roggewein, a Dutch navigator.
1690. Kamschatka, the principal settlement of the Russians, on the coast of Asia, discovered by a Cossack chief, Morosko. This country was taken possession of by the Russians in 1697.
1692. Japan, carefully visited by Kemfer, a German.
1699. New Britain. This island, and the straits which separate it from New Guinea, discovered by Daupier. This enterprising seaman made a voyage round the world at the period of this discovery.
1728. Behring's Strait, explored and designated by a Danish navigator in the service of Russia, whose name it bears. Behring thus established that the continents of Asia and America are not united, but are distant from each other about thirty-nine miles.  
Kamschatka, ascertained by Behring to be a peninsula.
1741. Aleutian Isles, on the coast of North America, discovered by Behring. A more accurate survey of these islands was made under the Russian Government, by Captains Billing and Sarytchef, from 1781 to 1798.
1765. Duke of York's Islands, discovered by Byron.  
Isles of Danger, discovered by Byron.
1767. Otaheite, discovered by Wallis.
1768. Cook's Strait, discovered by Captain Cook. His voyage round the world, which lasted from 1768 to 1771.
1770. New South Wales, discovered by Captain Cook.
1772. Island of Desolation, the first land south of India, discovered by Kerguelen, and called by his name. Subsequently called the Island of Desolation by Captain Cook.
1774. New Caledonia, discovered by Captain Cook in his second voyage, 1772-1775.
1778. Icy Cape, discovered by Captain Cook.  
Sandwich Islands, discovered by Captain Cook in his third voyage, which commenced in 1776. He lost his life in 1779.
1797. Bass's Straits. Mr. Bass, surgeon of H. M. S. Reliance, penetrated as far as Western Port, in a small open boat, from Port Jackson, and was of opinion that a strait existed between New South Wales and Van Dieman's Land. In 1799, Lieut. Flinders circumnavigated Van Dieman's Land, and named the Strait after Mr. Bass.

- 1804-5-6. The Missouri, explored to its sources by Captains Lewis and Clarke, and the origin and source of the Columbia ascertained.
1819. Barrow's Straits, discovered by Lieut. Parry, who penetrated as far as Melville Island, in lat. 74 deg. 26 min. N. and long. 113 deg. 47 min. W.  
New South Shetland, discovered by Mr. Smith, of the brig William, bound to Valparaiso.
- 1819-22. North America, the northern limits of, determined by Captain Franklin, from the mouth of the Coppermine River to Cape Turnagain
1821. Asia, the northern limits of, determined by Baron Wrangle.
- 1825-6. North America. Franklin's second expedition, in which the coast between the mouths of the Coppermine and M'Kenzie's rivers, and the coast from the mouth of the latter to 149½ W. long., were discovered.
1827. North America. In August of this year, Captain Beechey, in H. M. S. Blossom, discovered the coast from Icy Cape to Point Barrow, leaving about 140 miles of coast unexplored between this Point and Point Beechey. Point Barrow is 156½ W. long.
- 1829-33. North America. North-west passage. Discoveries of Captain Ross, October 18th, 1833.
1830. The Niger (termination of) discovered by Richard and John Lander, November 18th.
1838. Arctic discoveries by Dease and Simpson.
1849. Livingstone and friends trace River Zouga, Africa.
1855. Livingstone discovers Victoria Falls, Africa.
- 1856-59. Du Chaillu explores Equatorial Africa.
1857. Captain Burton crosses Equatorial Africa.
1858. Captain Speke discovers Victoria Nyanza.
1876. Cameron crosses the continent of Africa.  
British Arctic expedition within 1,000 miles of North Pole.
1877. Stanley identifies the great African rivers Congo and Lualaba as one and the same.
1878. Prof. Nordenskjöld successfully makes the northeast passage around the Siberian coast, and declares it practicable for commerce.
1879. The disputed questions, in African geography, of the source of the Ogowé and the discharge of the great river Cubango, settled.
1880. Dr. Lenz traverses the Sahara desert from Morocco to Timbuctoo, the first to reach that city from the north.
1881. The highest mountain in the world ascertained to be Gaurisanhur, in the Himalaya range, 29,025 feet, or about 5½ miles high.



By F. B. DICKERSON.



IN his publication on Education, John Locke says: "The writing of letters has so much to do in all the occurrences of human life, that no gentleman can avoid showing himself in this kind of writing; occasions will daily force him to make use of his pen, which always lays him open to a severer examination of his breeding, sense, and abilities than oral discourses, whose transient faults, dying for the most part with the sound that gives them life, and so not subject to a strict review, more easily escape observation."

Letter writing was the link that in the last century bound together those literary coteries that we would now sneer at as "provincial," and in the interchange of epistles we get glimpses of literary life that are as vistas of green fields and fresh waters to the writer of the present day. The cultured leisure recognized as the natural necessity of thought, the slow and deliber-

ate workmanship by which alone such thought could be insured fitting expression, the exact balancing of a period, the close scansion of feet, and the delicate ear-ringing of rhymes, have to the mass of writers of the present time the same picturesque and charming antiqueness that the stage-coach has to the hurried traveler who must perform his journeys by express train. We flatter ourselves that we can do all that our predecessors did in much less time and with decidedly less fuss. This may be true; but still, when we examine closely, we discover that we are in a great measure reaping where they have sowed, and that our present haste is largely indebted to their leisure. And whatever we may say when we find our pens in request, and when study is so much time wasted that might have been given to reproductive writing, the old ideal of the literary life is the only one that will commend itself to the truly literary man.

Napoleon's instructions to his son, through his executors, were: "Let my son often read and reflect on history. This is the true philosophy. Let him read and meditate on the wars of the great captains. This is the only means of rightly learning the science of war." We believe the application of Napoleon's advice to his son the only correct way of learning *Science in Letter Writing*, hence we publish as our "sample letters" letters from the most noted men and women of this and other countries, including letters from every President of the United States and fourteen signers to the Declaration of Independence. In making this selection, we have endeavored to have them relate to as great a variety of subjects as possible, and every lover of pure society will welcome this volume, which is the result of the expenditure of great labor, time and money.

#### Hints to Composition.

Cobbett's advice "to know first what you want to say, and then say it in the first words that occur to you," is sound, and

Miss Martineau, in her copious autobiography tells us that early in her career she gave up the practice of copying anything she wrote. "For," as she goes on to say, "I perceive that great mischief arises from the notion that botching in the second place will compensate for carelessness in the first. It seemed to me that distinctness and precision must be lost if alterations were made in a different state of mind from that which suggested the first utterance. I have always made sure of what I meant to say, and then have written it down without care or anxiety, glancing at it again to see if any words were omitted or repeated, and not altering a single phrase."

"As a rule, it is well to banish all thought of ornament or elegance, and to aim only at expressing yourself plainly and clearly. The best ornament is always that which comes unsought. Do not beat about the bush, but go straight to the point. Remember that what is written is meant to be read; that time is short; and that—other things being equal—the fewer words the better. Repetition is a far less serious fault than obscurity. Young writers are often unduly afraid of repeating the same word, and require to be reminded that it is always better to use the right word over and over again than to replace it with a wrong one,—and a word which is liable to be misunderstood is a wrong one. A frank repetition of a word has even sometimes a kind of charm, as bearing the stamp of *truth*, the foundation of all excellence of style. Many conventional expressions, partly commonplace and partly vulgar, should be carefully avoided."

Nearly all the writing of most persons is in the form of letters, and yet in many of our schools this kind of composition is sadly neglected. This neglect is probably due in some measure to the fact that a complete and systematic treatise on letter writing has heretofore been wanting. When it is considered that in the art of correspondence there is much that is conventional, requiring a knowledge of social customs, which, if not

early taught, is obtained only after years of experience and observation, and that the possession or want of this knowledge does much to determine a person's standing in good society—the value of this art, and of a thorough text book by which it may be taught, will be duly appreciated.

Much of the material has been gathered from original sources, and now appears in print for the first time. Great care has been exercised to give the best present usage in regard to all subjects treated. The selection of letters written by the various Presidents of the United States, and other persons of note, will be found especially valuable as examples of domestic and familiar correspondence.

#### Materials.

*Paper.*—In this paper age there is seldom an excuse for writing a letter on paper not especially intended for the purpose. It may be had in nearly an endless variety, and suited to all tastes and wants. Formerly the preference was given to that size (about 8x10 inches) known as *letter paper*, and it is still to be preferred in business letters; but in social letters it has been almost entirely superseded by the size known as *note*. Gentlemen generally use what is known as *commercial note* (size about 5x8 inches), but *packet note*, which is somewhat smaller, is more suitable for ladies' use.

Besides the above, which are standard, there is a great variety of fancy note papers put up in boxes with envelopes to match. Never write a letter on foolscap *under any circumstances*. If it is the only paper obtainable cut it down to note or letter size. Do not use a half sheet except for a business letter. In a private letter it not only looks mean and stingy, but is disrespectful to the receiver.

No color is more elegant and tasteful than white, and no other color should ever be used by gentlemen. Ladies may use

delicately tinted papers if they choose, but it is regarded as bad taste for a gentleman to use either tinted or perfumed paper.

If you can write perfectly straight without a guiding line, by all means use unruled paper. It is more stylish, and allows one to write close or open as the occasion seems to demand.

*Envelope.*—The envelope should be adapted both in color and size to the paper. Those known to dealers as Nos. 4 and 4½ are suitable for ladies, and Nos. 5 and 5½ for gentlemen's social correspondence. Nos. 6 and 6½ are generally preferred for business purposes.

Both paper and envelopes should be of fine quality. It helps to create a favorable impression on the recipient, and beside is conducive of fine penmanship.

*Ink.*—Good black ink can never be in bad taste. It is the most durable color, and one never tires of it. Purple ink is allowable, though not so much in vogue as a few years since. All other colors should be discarded entirely.

*Seals.*—Seals have almost gone out of date since the introduction of gummed envelopes, being now little used except for valuable enclosures sent by express. Still a seal of wax neatly put on gives a much more refined appearance to a note, and adds something of distinctiveness to it.

#### The Heading.

THE HEADING consists of the *place* and *date*. On ruled paper it should begin on the first line, near the center of the sheet, and may occupy one, two, or three lines. It should of course occupy the same position on unruled paper. *The place* should include at least two items, the *Postoffice* and the *State*, and if the place is not a large one, the county also, unless well known to the person for whom the letter is intended. When writing from a city where there is a free delivery, the street and number should also be written. *The date* should give the month, the day of the

month and year, and may also include the day of the week. In social notes the year is often omitted.

#### Introduction.

THE INTRODUCTION includes two parts, the *address* and the *salutation*. The former consists of the name and title of the person written to, with his place of residence. The name should be written plainly and in full. Courtesy requires that some title should be affixed to the name, unless the person addressed is a member of the society of Friends.

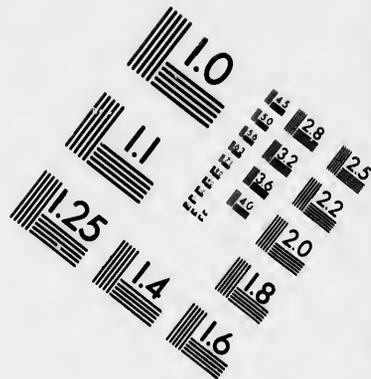
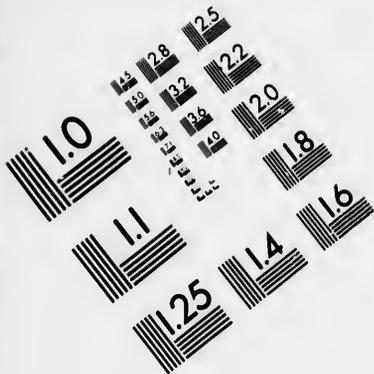
The ordinary titles are Mr., Esq., Mrs., and Miss. Master is used in addressing a boy. Two of these titles cannot be used, nor should they be used in connection with professional, literary or military titles, except in one or two instances. In case of a clergyman it is allowable to write *Rev. Mr.*, and if a married man has a professional or literary title, *Mrs.* may be used before it to denote his wife.

*The salutation or complimentary address* is a term of politeness, respect, or affection with which we introduce a letter, such as *Dear Sir, My dear Madam, Gentlemen*. Most of the salutations used in business letters are equally appropriate in many other letters. It would be absurd to attempt to prescribe set forms for all the varieties of social correspondence, the particular expression to be used depending on the feelings or fancy of the writer, and his relation to the person addressed.

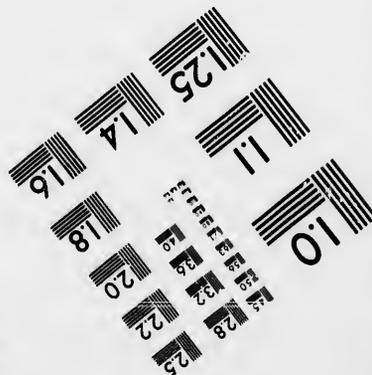
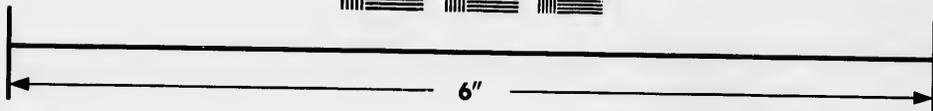
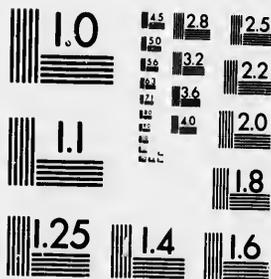
The introduction may consist of the address and salutation, or the salutation alone. In the latter case, the address is placed at the end of the letter. In business letters, not official, it should invariably precede the body of the letter; in military and other official letters it sometimes precedes and sometimes follows. Both forms are allowable in social letters.

*The address* should begin on the first or second line below the date line, from one-fourth to three-fourths of an inch from



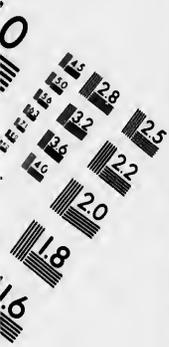


**IMAGE EVALUATION  
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**Photographic  
Sciences  
Corporation**

23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
(716) 872-4503



the left edge of the sheet, and may occupy one, two or three lines. The first line of the address should contain the name and title only, the second the Postoffice and State, or, if the street and number are given, they should occupy the second, and the Postoffice and State the third. Each succeeding line of the address should begin from half an inch to an inch further to the right, according to the size of paper used.

The salutation should be written on the next line following the address, and may begin immediately under the initial letter of the first line, or half an inch or more to the right of the beginning of the last line.

The arrangement of the address and salutation, as well as the punctuation of the same, will be best understood by reference to the following models:

Social Forms.

*119 Washington Ave., Detroit.*

*July 15, 1882.*

*Mrs. Susan Watson.*

*Dear Madam,*

*Please accept my*

*—  
Gremont, Ohio.*

*June 21, 1882.*

*Dear Harry,*

*I am most agreeably*

Thursday, Sept. 13, 1881.

My good Mother:—I write you this

Business Form.

Detroit, Mich.

July 10, 1882.

Messrs. Cassell, Petter, Galpin & Co,  
New York City.

Gentlemen,

We have

Aboite, Allen Co., Ind.

July 13, 1882.

Messrs. F. B. Dickerson & Co.,

No. 147 Larned St., West,

Detroit, Mich.

Dear Sirs,—Enclosed please find

*Detroit, Mich., July 19, '82.*

*Miss Cora E. Snyder,*

*Toronto, Ont.*

*We have the pleas-*

*238 Jefferson Ave.,*

*Detroit, Mich.*

*July 20, 1882.*

*Mrs. Jennie Emerson,*

*Denver, Colo.*

*Dear Madam:*

*We have just  
received your favor of the 15th inst., enclosing  
Draft for \$65.42*

*Official Forms.*

*To the Hon. Robert Lincoln,*

*Secretary of War,*

*Washington, D. C.*

*Sir:—I beg the honor to call your*

To His Excellency, David Jerome,  
Governor of the State of Michigan,  
Lansing, Michigan.

Your Excellency:

Col. James Startman,  
Commanding 10th U. S. Infantry,  
Fort Wayne, Mich.  
Colonel,

I have the honor to submit

In the punctuation of the foregoing it will be noticed that both the comma and colon have been made use of. There seems to be excellent authority for the use of either, though we incline to prefer the comma in most cases. When the body of the letter begins on the same line occupied by the complimentary address, a dash should intervene, but when it begins on the following line the dash should not be used.

### The Body of the Letter.

THE BODY OF THE LETTER is the communication itself, the meat in the nutshell. It begins either on the same line as the complimentary address, or on the line following, the latter style being preferable unless the introduction is long. A blank margin from one-fourth to three-fourths of an inch wide (according to the size of paper used) should be left on the left-hand side of each sheet, but not on the right. Great pains should be observed to have this margin perfectly straight and even, using a lightly ruled pencil line, or a heavy black line on a sheet beneath the one written on, if necessary.

Letters should be divided into paragraphs whenever the writer passes from one subject to another. Sometimes persons fall into the mistake of making a separate paragraph of each sentence, but this is wrong. A letter may consist of only one paragraph, yet contain several complete sentences.

All paragraphs except the first should begin the same distance from the marginal line (about three-fourths of an inch or an inch being the proper distance) and not under the end of the preceding one as many suppose.

*Penmanship.*—Write neatly and legibly at all events, elegantly if you can. If not an insult, it certainly is an imposition to send your correspondent a letter so badly written that it compels him to take double the time to *decipher* it that he would to *read* it if well written. Flourishing is entirely out of place. Leave that for the itinerant writing teacher and the commercial college student.

It is best to write upon every page unless the paper used is so thin that the writing shows through. Business letters that are to be copied in a press should be written upon but one side of the sheet, as when the paper is dampened the ink penetrates through, making the letter very difficult to read if written on both sides.

Many persons have a habit, and a very bad one, of crossing their letters. It renders the writing illegible, and in this day of cheap paper and cheap postage there is no excuse to be urged for it.

Blots are not allowable, and interlineations and erasures are to be avoided as much as possible. Most persons like to appear well to their friends and to society, neat in person and elegant in manner. Should they not strive to appear as well through the medium of their letters?

#### Conclusion.

THE CONCLUSION of the letter consists of the *complimentary close*, the *signature*, and, when it is not written at the head of the letter, the *address*. It is a phrase of courtesy, respect or affection that the circumstances of the case may seem to demand. In social letters there is opportunity for almost an infinite variety of forms. In business letters, *yours truly*, and *respectfully yours*, with the variations afforded by inverting the words and adding *very* for the sake of emphasis, make up the customary forms of the complimentary close. Official letters are more formal than others in the close, and the term *your obedient servant*, once so common, is now in this country almost entirely restricted to this class of letters.

*Signature.* — All letters that contain anything of more importance than mere gossip should be signed with the full name, and care should be taken to write it so plainly that he who runs may read, especially if the letter is to one who is a stranger to the writer. It should be borne in mind that a name is much more difficult to decipher than a word in the body of the letter, for there the context will enable one to tell, in most cases, what the word ought to be, but no such clue is afforded in making out a badly written name. If the writer is a lady she should, in writing to a stranger, so sign her name that the recipient of the

letter may understand not only her sex, but whether she be married or single.

*The complimentary close* is written on the line following the end of the letter proper. It may occupy one, two, or even three lines. The first line should begin an inch or two to the right of the left margin, and each succeeding line half or three-fourths of an inch further to the right.

When the *address* is placed at the end of the letter it should begin at the left margin on the first line following the one occupied by the signature, and be arranged in the same general form as when placed at the beginning of the letter.

The following models will serve to more fully fix the general principles above given, and indicate the proper punctuation:

Social Forms.

.....  
Sincerely yours,

Lucy Graynor.

(The dotted line represents the last line of the letter.)

.....  
Yours, my dear friend,

affectionately & faithfully,

Wm Cooper.

Very sincerely yours,

Bayard Taylor.

Camden, N. J.

Dec, 24, 1871.

Your affectionate niece,

Helen Porter.

Mrs. Elizabeth L. Browning,

Newport, R. I.

Business Forms.

Yours truly,

James Patterson.

Very respectfully yours,

Howell Paine & Co.

## Official Forms.

I am, Dear Sir,

Your most obedient servant.

Hamilton Ford.

I have the honor to remain,\*

With much respect,

Your ob't servant,

John Anderson.

To the Hon. Philo Hammond,  
Wilmington, N. C.

\*Remain implies previous correspondence.

Having the letter finished, it should next be properly folded. The general rule is to fold the sheet so that when opened it shall present the first page right side up to the reader.

To fold the note sheet, lay it on the table before you, with the first page up. Turn the bottom up about one-third the length of the sheet, then turn the top down in the same manner. The envelope should be a trifle longer than the width of the sheet. Letter paper requires the same sized envelope, and is folded by turning up the bottom edge so as to meet the top, or nearly so; turn the right edge over one-third the width of the sheet, then turn the left edge over it and press down the folds. If you are compelled to write on odd sized paper, you will have to use some ingenuity to make it fit the envelope, but endeavor to keep in mind the general rule given above.

**THE SUPERScription.**—The superscription consists of the name and title of the person for whom the letter is intended, with postoffice, county, state, street and number, etc.

Great care should be used to write the whole of the superscription plainly. Thousands of letters go astray every month on account of being imperfectly addressed. Especially should the abbreviations of states be plainly written. When carelessly written, Pa., Va., and N. Y. and N. J. are liable to be confounded, and we have known Ind. to be so badly written as to be mistaken for Md. Unless the town is large and well known the county should not be omitted.

The writing should be in straight lines, parallel with the upper and lower edges of the envelope. Do not rule lines to write upon. If you cannot otherwise write straight, slip a piece of heavy ruled paper or cardboard inside the envelope.

The proper forms of superscription, punctuation, capitalization, place for stamp, etc., will readily be seen in the following models:

STAMP.

*Mrs. Susan Watson**Cleveland**No. 114 Euclid Ave.**Ohio*

STAMP.

*Mrs. Susan Watson**No. 114 Euclid Ave.,**Cleveland, Ohio.*T  
and

If not called for in 10 days  
return to

F. B. DICKERSON & CO.,  
Publishers,  
DETROIT. - - MICH.

STAMP.

*John C. Hammond, Esq.,*

*Deputy*

*Adams Co*

*Ind.*

W. C. KING & CO.,  
PUBLISHERS,  
SPRINGFIELD, MASS.

Return if not called for in ten  
days.

STAMP.

*Mr. John C. Hammond,*

*Deputy,*

*Adams Co.,*

*Indiana.*

The above models are suitable for business or social letters,  
and show different ways of arranging the same address.

Model for the address of a letter of introduction.

STAMP.

*Messrs. Barnes Brothers,*  
*Detroit,*  
*Mich.*  
*Introducing*  
*Mr. J. F. Harrison.*

Model for the address of letter sent in care of a third party.

STAMP.

*J. H. Eaton, M. D.,*  
*Flushing,*  
*Mich.*  
*Care Hammond & Co.*

The above are models for the address of a business letter, showing the name of the county in different positions.

Another arrangement of the preceding.

STAMP.

*J. H. Cain, M. D.,  
Care Hammond & Co.,  
Flushing, Mich.*

Mould for a letter addressed to a foreign country.

STAMP.

*Mr. Herman Schwartz,  
Magdeburg,  
Prussia.*

STAMP.

*The Hon. Librarian of Congress,  
Washington,  
D. C.*

*The postage stamp* should be placed in the upper right hand corner, right side up. Be sure and put on sufficient stamps to prepay the entire amount. It is an act of discourtesy, if not of meanness, to allow your correspondent to receive a letter marked *Postage due*.

Letters that require an answer should be attended to at once. Promptitude in this respect not only facilitates business, but often preserves friendships. In answering a letter it is well to begin with some reference to its contents and recapitulate the important points, taking them up and treating them in the same order in which they occur.





BY notes are meant those short and formal messages of transient and local interest by which persons in the same town or neighborhood make known to each other their wishes, compliments, or commands. They differ from letters in that they are more formal, generally written in the third person, and are without signature, the use of the third person rendering it unnecessary.

What has been said in regard to quality and color of paper and envelopes for letters, will equally apply to notes, but no rule can be laid down in regard to size or shape, as the styles are constantly changing. Both paper and envelopes may have printed or embossed upon them the monogram or initial of the writer.

CARDS were originally used only to make known a person's name, but of late years the uses to which they have been put have greatly multiplied.

As now used, they may be classed as *Visiting*, *Ceremonial*, *Professional* and *Official*, and *Business*.

Whatever is here said of *Notes* will generally equally apply to *Ceremonial Cards*, as in reality they are simply notes on cardboard. Notes are, however, more appropriate for occasions of formality and importance, and also for acceptances and regrets.

When notes or cards are to be sent through the mails an outer envelope of a coarser quality should be used to protect the envelope proper from being soiled. Upon the inside envelope should be written the name only of the person for whom it is intended. The outside envelope should contain the name and full address.

The language of notes should be concise but courteous, the writing or engraving plain but elegant. Excessive ornament should be avoided, and the elegance allowed to consist of richness of material, beauty of form, and harmony of parts.

The following French words and phrases or their initials are sometimes used on notes and cards:

*R. S. V. P.*—*Repondez s'il vous plait*: Answer, if you please.

*P. P. C.*—*Pour prendre congé*: To take leave.

*Bal Masqué*: Masquerade Ball.

*Le Cotillon*: The "German."

*Costume de rigueur*: Full dress, in character.

*Fête Champêtre*: A garden party.

*Soirée Dansante*: A dancing party.

*E. V.*—*En Ville*: In town or city.

*Notes of Ceremony* are embraced in two classes—*Invitations* and *Acceptances and Regrets*. Among the former are invitations to *Weddings, Wedding Anniversaries, Dinners, Social Parties, Balls, College Anniversaries*, etc. Notes of acceptance and regret are all embraced in two or three general forms. We append appropriate models of all of the above.

Invitation to Wedding Ceremony.

*Mr. and Mrs. Daniel F. Whitney*  
*request your presence*

*at the marriage of their daughter*

*Helena*

*to*

*Howard S. Leamington,*

*on Wednesday afternoon, January ninth,*  
*at four o'clock.*

*Grace Church*

*Second Avenue and Fort St.,*

*Minneapolis.*

*1883.*

If a reception is to be given at the residence of the bride's parents, the following card should be enclosed with the invitation:

*Reception,*  
*from half-past four until ten.*  
*No. 117 Edmund Ave.*

Or the following more elaborate card may be used:

*Mr. & Mrs. Daniel F. Whitney,*  
*At Home,*  
*Wednesday afternoon, January ninth,*  
*from half-past four until ten o' clock.*  
*No. 117 Edmund Ave.*

At a wedding of any pretensions where it is desired to avoid the church being filled with mere sight-seeing strangers, the following usher's card should be used:

*Grace Church*  
*Ceremony at four o' clock.*

## Form for Written Invitation.

Mr and Mrs Daniel P.  
Whitney request the pleas-  
ure of Mr Henry Ford's  
presence at the wedding  
reception of their daughter,  
on Wednesday evening, Jan-  
uary second, from five till  
ten o'clock

146 Edmund Ave.

Monday, Dec. 18<sup>th</sup>, '82.

bride's  
invitation:

o avoid  
the fol-

With the foregoing should be enclosed the cards of the bride and groom, and for those who are desired to be present at the ceremony a third card like the following :

*Ceremony at four o'clock.*

The announcement of a private or informal wedding, if made by the bride's parents, may be in the following form :

*Mr. and Mrs. James Harrington*  
*announce the marriage of their daughter*  
*Victoria*  
*to*  
*William McInverness.*

*Tuesday, January eighth. 1315 Forest Ave.*

It  
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maid  
enve  
of th

It is, however, more generally customary in the case of a private or informal wedding, that the bridegroom make the announcement of the marriage. Two cards may be used, one bearing the names of the married couple, and the other the maiden name of the bride. These should be enclosed in double envelopes and mailed to the friends whom it is desired to inform of the event.

*Mr. & Mrs. William McInverness*

*Miss Victoria Harrington*

Another form of announcement is as follows:

*Mr. Wm. McInverness*  
*and*  
*Miss Victoria Harrington,*  
*Married,*  
*Tuesday, January eighth, 1882*  
*Detroit.*

*Anniversary Weddings*, or more appropriately, Anniversary Celebrations, are very pleasing to the wedded pair in whose honor they are given. The invitations are issued, appropriately engraved, on materials characteristic of the occasion.

WOODEN.—Fifth anniversary.

TIN.—Tenth anniversary.

CRYSTAL.—Fifteenth anniversary.

SILVER.—Twenty-fifth anniversary.

GOLDEN.—Fiftieth anniversary.

## Wooden Wedding.

1875.

1880.

*Mr. & Mrs. Henry Clay Daniels,*

*At Home,*

*Tuesday evening, July 13, at eight o'clock.*

*37 Forest Ave.*

The invitation is on wooden or imitation cards. For Tin Wedding, paper made in imitation of tin is used. If it is preferred that no gifts be offered the invitation should contain an announcement to that effect.

## Crystal Wedding.

1825.

1840.

*Mr. and Mrs. Ichabod Crane*

*request the pleasure of your company at their*

*Fifteenth Wedding Anniversary,*

*Wednesday evening, June Third, at 8 o'clock.*

*342 Second Ave.*

*No gifts received.*

The invitation should be on crystallized cards.

1825.

Silver Wedding.

1850.

Your company is earnestly solicited by  
 Mr. and Mrs. Schabod Crane,  
 to celebrate the Twenty-fifth Anniversary of their  
 marriage,

Wednesday evening, June third,  
 at eight o'clock.

34 Alfred Street.

No gifts received.

The invitations are on silver-bordered cards.

Golden Wedding.



Schabod Dreu.  
 Sally Denniston.

Married June third, 1825.

Fiftieth Anniversary,

Thursday evening, June third, 1875,  
 at eight o'clock.

The presence of your company is requested.

34 Alfred St.

The invitations should be printed in gold on wedding note sheets.

## Full Dress Receptions.

Full Dress Receptions are events of the social season that are attended with more than ordinary solicitude and expenditure. Previous to issuing the invitations a call is made in person or by card on all acquaintances who are to be honored.

The invitations should be sent two weeks previous to the reception day to avoid other engagements interfering. We append models of invitations. They may be delivered by special messenger in unsealed envelopes, or sent through the mails in double envelopes.

Mr. and Mrs. James Frye  
request the pleasure of your  
company on Tuesday evening,  
December tenth, from eight  
until eleven o'clock.

535 Cass Ave.

Full Dress Receptions are given afternoon and evening, the afternoon more particularly designed for elderly acquaintances, and the evening for young ladies and gentlemen.

Model for Invitation.

Mrs. James Frye,

Misses Frye,

request the pleasure of your company on

Tuesday, December tenth,

from five until eleven o'clock P. M.

535 Cass Ave.

Dancing at nine o'clock.

The following form is for a reception given in honor of a distinguished person :

Mr. William S. Miller

requests the pleasure of the company of

Mr. ....

On Friday evening, June 7th, at eight o'clock,  
to meet

Mr. Jean L. Germaud,

of Havre, France,

Secretary of the International Association for the  
encouragement of Decorative Art.

341 Madison Ave.

R. S. P.

## Invitation for Tea Reception.

Mrs. Peter L. Barnum,  
937 Jefferson Ave.  
Tuesday, December fifth,  
from four until six o'clock.

## Dinner Invitation.

Mr. and Mrs. Harrison Fish  
request the pleasure of  
Mr. and Mrs. James Gordon  
Franklin's company  
at Dinner on Tuesday  
December 11<sup>th</sup>, at eight o'clock,  
to meet the  
Hon. Harrison Hampton  
394 Jefferson Ave.

Invitation to Child's Birthday Party.

Master Henry C. French  
 requests the pleasure of your company to his  
 Birthday Celebration,  
 On Monday evening, December tenth,  
 from six until ten o'clock.  
 45 Lafayette Avenue West.  
 R. S. V. P.

Card Party Invitation.

211 Howard Street.  
 Mr. Franklin Fisher  
 requests the pleasure of.....  
 company on Thursday evening, February 7th,  
 from eight until one o'clock.  
 R. S. V. P.

## Acceptance of Dinner Invitation.

*Mr. and Mrs. James S. Franklin*

*accept with pleasure*

*Mr. and Mrs. Hamilton Fish's*  
*invitation to dinner at eight o'clock, Tuesday,*

*December eleventh.*

## Declination of Invitation.

*Mr. and Mrs. Wm. B. Stone*

*regret that a previous engagement prevents their*

*acceptance of*

*Mr. and Mrs. Luther N. Beecher's*

*invitation to Dinner,*

*Tuesday evening, January eighth.*

Invitation to College Commencement.

MICHIGAN STATE NORMAL SCHOOL,

YPSILANTI, MICH.

*Compliments of*  
*The Class of '82.*  
*Commencement Exercises*  
*in the Chapel,*  
*Tuesday, June 28<sup>th</sup>, at ten*  
*o'clock A. M.*

A card on which are printed the names of the orators should be enclosed.

Visiting Cards.

Visiting cards are so familiar as to hardly need a description, but we append a few forms that will indicate what is now regarded as the best taste.

*Mrs. Barstowe.*

*Mrs. Chas. C. Barstowe.*

*135 Fort St. West.*

*Mrs. Chas. C. Barstowe.*

*135 Fort St. West.*

*Tuesdays in January.*

The above forms are suitable for a married lady or widow, the last indicating her "at home," or reception days. Mother and daughters visiting together may use the following card :

*Mrs. Chas. C. Barstowe.*

*Miss Barstowe.*

*Miss Edith K. Barstowe.*

*135 Fort St. West*

Or this form.

*Mrs. Chas. L. Barstow.*  
*Misses Barstow.*

235 Fort St. West.

Form for eldest daughter:

*Miss Featherston.*

The other sisters use full names.

*Miss Edith A. Barstow.*

The address may be added on either of the above if desired.

*Minnie Cameron*

*1707 Michigan Street*

The following are samples of gentlemen's hand-written cards.  
The address may be added in the lower left-hand corner, if  
desired.



C. H. Cunningham



H. C. Dennis

## Official Card.

*Gen. Albert J. Meyer.*

CHIEF SIGNAL OFFICER U. S. A.

## Professional Card.

*L. King Peterson, (M. D.)*

Office, No. 15 Lafayette Avenue.

Hours, 9 to 10 and 2.30 to 4.

An  
the se  
leath,  
mark

*In Memoriam Cards.*

An English custom rapidly gaining favor in this country is the sending out of Cards in Memoriam to friends to announce a death, of which they might remain in ignorance but for this mark of respect.

*In Memoriam.*

—

*Gen. James A. Garfield,*  
*Twentieth President*  
*of the*  
*United States.*  
*Died September 19, 1881.*

—

"After life's fitful fever he sleeps well."



Business Correspondence

—AND—

Mercantile Forms.

A business letter should be brief and to the point, yet clearness should never be sacrificed in order to secure brevity. Endeavor to make your meaning perfectly clear, and use as few words as possible to do it. In penmanship avoid everything in the nature of flourishes, and as well a careless style of writing that renders words indistinct and liable to be mistaken for others. Mistakes are expensive—they cost both time and money—and one-half that are made in business transactions might be avoided by a very little care.

It is a most excellent rule in business to copy every letter in which anything is said that there is the least possibility of being referred to in future. It not only enables one to be sure of *just exactly what he said*, but affords a current history of a man's business that is useful in many ways.

In answering letters follow the same order that is observed therein, discussing each subject thoroughly before proceeding to the next.

If one's business correspondence is at all extensive the letters should be filed away in alphabetical order as soon as answered, so that any letter may be readily found when reference is desired to be made to it.

Full information regarding materials, forms of address, superscription, etc., will be found in the general remarks in the opening chapter on letter writing. Below are given samples of letters embracing a large range of subjects, and illustrating the principles underlying correct business correspondence.

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## Short Form of Introduction.

My Dear Sir:

Chicago, Ill., April 8, 1882.

I have the honor of introducing to your acquaintance Mr. John Darling whom I commend to your kind attention.

Very truly yours,

Mr. SAMUEL THOMPSON,  
Dayton, Ohio.

ROBERT T. WILSON.

## Letter Introducing Gentleman Seeking Location for Business.

J. F. Gaylord, Esq.,

Chicago, June 9, 1882.

Grand Rapids, Mich.

Dear Sir:—We recommend to your attention and favor Mr. Daniel Long, a promising young business man of this city. He is seeking a suitable location for opening a general dry goods store, and will be in your city for that purpose in a few days. He is a gentleman of energy and business capacity, and would be a valuable acquisition to any city.

I am, respectfully yours,

JOHN MANNING.

## Introducing a Young Man Traveling on Business.

Henry Watson, Esq.,

Boston, March 29, 1882.

Charleston, S. C.

Sir,—We recommend to your particular favor and attention the bearer, Mr. Geo. Holmes, eldest son of Mr. Wm. Holmes, of the highly respectable house of Holmes, Martin & Co., of this city.

Our esteemed young friend is about to visit the Southern States, by way of Charleston, on business for the house; we therefore request you, most earnestly, to afford him your advice and assistance, and to render his stay in your city as agreeable as possible. He is clever, steady and unassuming, and we are convinced that on a near acquaintance will prove himself deserving of your esteem and good will.

Command us freely in similar cases, and be assured we will use our best endeavors to do justice to your introduction.

We are, respectfully yours,

HENRY MINER &amp; CO.

*Recommending a Teacher.*

Detroit, Mich., Mar. 4, 1882.

John Miner, Esq., Chairman,  
Sydney, Ohio.

Dear Sir:—The bearer, Mr. Abram Morton, who is about to leave this district, where he has been engaged in teaching, is, I am pleased to say, of good standing here, both as a teacher and member of society. His character is above reproach, and I cheerfully recommend him to a position in one of the district schools of your town.

I am, respectfully yours,

ANDREW F. WILLIS,  
Chairman School Committee.

*Recommending a Clerk.*

Denver, Col., May 9, 1882.

Messrs. W. W. Barton & Co.,  
Omaha, Neb.

Gentlemen:

The bearer, Mr. Walter Beard, being about to leave our employ, it gives us pleasure to testify to his merits as a clerk, the capacity in which he served us. He has been with us the past four years, and during this time has discharged his duties with skill and ability. He has been punctual at his work, courteous in his manners, and by his care and attention to our business has made himself specially valuable. He bears a good character as a gentleman as well as a man of business.

Yours very truly,

F. D. VINING & CO.

*General Recommendation.*

Buffalo, N. Y., Jan. 10, 1882.

To whom it may concern:

The bearer, Mr. Thomas Myers, is personally known to me as a young man of sterling worth. He is a graduate of Yale College, is of good family, possesses an unblemished character, and as a member of society is highly esteemed. I cordially recommend him to good people everywhere, and especially to those to whom he may offer his services.

Very respectfully,

EDWARD C. GRAHAM.

## Application for a Clerkship.

Messrs. F. B. Dickerson &amp; Co.,

Port Huron, Mich., July 17, 1882.

47 Larned St. West,

Detroit, Mich.

Dear Sirs:—Learning from a friend (Mr. Jas. Johnson) of the vacancy of the position of junior clerk in your house, I take the liberty of making application for the same. I have not had much business experience, but have a good common school education and can write a plain hand rapidly. I am eighteen years of age, and have relatives in your city, with whom I would make my home.

For information as to my character, please inquire of J. R. Hanson, Esq., of your city.

Very respectfully,

JAMES BROWN.

## Application for Position of Bookkeeper.

M. W. Ellsworth &amp; Co.,

Grand Rapids, Mich., July 17, 1882.

Detroit, Mich.

Gentlemen,—In reference to the enclosed advertisement, which appeared in to-day's *Evening News*, I respectfully offer my services. I am at present bookkeeper for John Smith & Co., but desire advancement. I am perfectly familiar with the duties of the position applied for, and am at liberty to refer you to my present employers, who will, I think, satisfactorily answer any questions as to my character and qualifications.

Very respectfully,

WM. BROWN.

(Cut out and enclose advertisement.)

## Application for Position of Salesman and Collector.

Messrs. Smith &amp; Parker,

Cincinnati, O., June 1, 1882.

Buffalo, N. Y.

Gentlemen:

I am recommended by Mr. George Brown to apply to you for the situation of salesman and collector, lately occupied by him in your warehouse.

I am thirty years of age and have responsible friends residing in your city who will give bonds for me if required. I have had experience in your line of business,

and would be pleased to have a trial with you, if preferable, previous to a permanent engagement. I am at liberty to refer to J. C. Johnson & Co., of your city, in reference to my ability and character.

Very respectfully,

JOHN C. BRYAN.

*Application for an Increase of Salary.*

New York, June 1, 1882.

Messrs. D. Appleton & Co.

Gentlemen:—Will you permit me to call your attention to a subject of considerable importance to me, namely, the question of an increase of salary. I have been with you nearly two years, in which time you have determined upon my disposition and ability to do the work required of me, and in calling your attention to this subject, I do so believing it has escaped your notice in the more pressing demands upon your attention. I have endeavored to perform my duties faithfully and punctually, and if I may venture to hope for encouragement from you, believe me ever ready and willing to respond to any demands your interests may require.

I am, yours respectfully,

FRANK C. CHAPMAN.

*Letter of Credit.*

Cincinnati, Ohio, May 9, 1882.

Mr. Benj. Davis,  
N. Y.

Sir,—Permit me to introduce to your acquaintance the bearer of this letter, Mr. Alex. Jones, who proceeds to N. Y. on his way to Eng.

Should Mr. Jones desire to take up cash for the payment of his passage, etc., you will please advance him any sum not exceeding \$500, taking his draft at three days' sight on his house here, Messrs. Calkins, Vance & Co., in reimbursement.

I shall feel greatly obliged by such marks of attention as you may be able to show Mr. Jones, whom you will find highly deserving of your regards.

I am, respectfully yours,

JOSEPH ELLIS.

Mr. Jones' signature.  
ALEX. JONES.

*Refusal to Grant Letter of Credit.*

J. C. Boyer, Esq.,

Cleveland, Ohio, May 1, 1882.

Indianapolis, Ind.

Dear Sir,—Your favor of the 19th ult., requesting a Letter of Credit on some house in New York, is just received. We regret to inform you that it is impossible, at present, for us to comply with your request. Hoping our inability to perform this service will not materially inconvenience you,

We are, yours very truly,

W. C. BARTON & CO.

*Apology for Breaking Business Appointment.*

John C. Walters, Esq.,

Flint, Mich., June 18, 1882.

Detroit, Mich.

Dear Sir:—Owing to unforeseen circumstances my failure to meet you yesterday, according to appointment, was unavoidable.

I very much regret having disappointed you, and beg you to believe it was not willingly done.

Hoping you will pardon me in this instance,

I am, respectfully yours,

JOSEPH M. BAKER.

*Letter Containing Order for Goods.*

Messrs. F. B. Dickerson & Co.,

Barnesville, Ohio, Dec. 15, '82.

Detroit, Mich.

Gentlemen,

Enclosed please find an order for 100 copies "Our Department," with N. Y. draft for \$117.45, to pay for same. I believe this order entitles me to 10 extra copies in the best binding, which please send with the order, as I shall need them to supply all my subscribers. I wish to deliver these books on the 23d and 24th. If you think they will reach here in time, send by freight; if not, by express.

Trusting my order will receive prompt attention, I am,

Very truly,

JAMES M. PATTERSON.

Another.

Kokomo, Ind., Dec. 5, '82.

Thorndike Nourse, Esq.,  
Detroit, Mich.

Dear Sir,

Enclosed I hand you an order for a miscellaneous assortment of odds and ends in Stationery, of which I see I shall run short before Holidays. Please get this order off at once by express.

I also enclose my check for \$337.40 to cover invoice of Oct. 8. The last bill (Nov. 30th) had not arrived up to last night. Please have the kindness to start a tracer after the goods, as I am needing some of them now.

I am,

Very respectfully,  
JOHN P. ALLEN.

## Application for Catalogue.

Hoopestown, Ill.,  
Feb. 26, '82.

Gentlemen: Will you be so kind as to mail me your latest catalogue of garden and field seeds, and also catalogue of flower seeds, if ready.

I remain,

Very truly,  
HENRY HUNTER.

D. M. FERRY & Co.,  
Detroit, Mich.

## Letter Requesting Estimates.

Detroit, Mich., Oct. 15, '82.

Mr. S. A. Gibson,  
President Kalamazoo Paper Co.,  
Kalamazoo, Mich.

Dear Sir,

We hand you with this two samples of book paper. We would like to have you examine them and let us know at what price you can furnish us paper equal in quality and finish.

Of the Rose tint we shall use from 375 to 400 tons. It is 21½x32 in., 9 lbs. to the ream, super-calendered.

The flesh tint is 25x34 in., 75 lbs. to ream, and also super-calendered. We expect to use at least 500 tons of the latter during '83.

Please give us your best possible *spot cash* figures on the above, delivered to us in Detroit.

Awaiting your reply,

We are,

Very truly,

F. B. DICKERSON & CO.

*From a Commission Merchant Soliciting a Consignment.*

Office of Oliver Cromwell,  
Commission Merchant,  
St. Louis, Mo.,

Oct. 4th, 1882.

James Marlborough, Esq.,  
Moberly, Mo.

Dear Sir,

I am informed that you have a large crop of apples this fall. If you anticipate disposing of them in this market I should be glad if you would consign a few car loads to me. Having been brought up in the commission business, and giving my personal attention to all sales, I am sure that I can realize for you as large, if not larger, returns than any other house in the city.

In regard to my reliability and responsibility, I will refer you to McMillan & Co. or the American National Bank.

Trusting to hear from you favorably at no distant date, I am,

Very truly,

OLIVER CROMWELL.

*Enclosing Drafts for Collection.*

A. Guibord, Esq.,

Detroit, Mich., Nov. 15, '82.

Cashier First Nat. Bank,

Plattsburg, N. Y.

Dear Sir:

Enclosed please find drafts for collection, as follows:

|                                     |          |
|-------------------------------------|----------|
| No. 1283, A. G. Bardin, 20 ds. .... | \$111 10 |
| 1284, " " 30 " .....                | 332 30   |

You need not remit until both are paid.

Resp'y yours,

F. B. DICKERSON & CO.

## Subscription for Newspaper.

Evening News Association,  
Detroit, Mich.

Leroy, Mich., Nov. 13, 82.

Gentlemen:—I enclose with this, American Express Company's Money Order for \$5.00, for which please forward to my address the daily edition of the "Evening News" for one year.

Very truly,

H. COLEMAN, JR.

## Letter of Inquiry.

L. K. Gould, Esq.,  
Toledo, Ohio.

Bryan, Ohio, Oct. 10, 82.

Dear Sir,

I take the liberty to inquire if you can give me the address of some good live commission merchant in your city to whom I can send a large consignment of choice Catawba grapes.

An immediate reply will greatly oblige, as the grapes must be shipped very soon.

Trusting that opportunity will soon occur to allow me to reciprocate the favor now asked, I am,

Very truly,

E. H. AUSTIN.

## A Commission Merchant Enclosing Bill of Lading for Goods to be Sold on Commission.

Oliver Cromwell, Esq.,  
Buffalo, N. Y.

Huron, Ohio, Oct. 11th, 82.

Dear Sir:—I this morning received your favor of the 10th requesting a trial consignment, and on the same mail a letter from my old friend, Hiram Hawley, speaking so highly of your facilities for handling fruits, that I have decided to send you some of my choice Catawbas to dispose of.

You will accordingly find enclosed a Bill of Lading for 740 baskets, each containing 10 lbs. net. They were very carefully packed, and leave here in first-class order.

Trusting you will be able to put them in a good market, I am,

Truly yours,

E. H. AUSTIN.



CORRESPONDENCE OF NAPOLEON AND JOSEPHINE.

Napoleon was married to Josephine de Beauharnais, widow of Count Beauharnais, March 9th, 1796. The marriage was dissolved December 15th, 1809. Bonaparte taken prisoner to St. Helena August 11th, 1815—died May 5th, 1821, at St. Helena.

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BONAPARTE TO JOSEPHINE.

Marmirolo, July 17th, 1796.  
I have received your letter, my adorable friend. It has filled my heart with joy. \* \* Ah! I entreat you to permit me to see some of your faults. Be less beautiful, less gracious, less affectionate, less good. Especially be not over-anxious, and never weep. Your tears rob me of reason, and inflame my blood. Believe me it is not in my power to have a single thought which is not of thee, or a wish which I could not reveal to thee. \* \* \* \* \*

A thousand kisses.

BONAPARTE.

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BONAPARTE TO JOSEPHINE.

May 16, 1800.  
I leave this moment to sleep at St. Maurice. I have received no letters from you. This is not kind. I have written you by every courier. \* \* \* A thousand affectionate wishes for you, my good little Josephine, and for all who surround you.  
BONAPARTE.

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Josephine's marriage dissolved from Napoleon Dec. 15, 1809. The beautiful palace at Malmaison was assigned for her residence. She retained the title of Empress and received an income of \$600,000 a year.

BONAPARTE TO JOSEPHINE.

My Love:

Wednesday, 1810.

I see no objection to your receiving the King of Wurtemberg whenever you wish.

\* \* \* \* \*

I am just going to dine, all alone. Adieu, my love; never doubt my affection for you. If you do, you will be unjust and wrong.

NAPOLEON

JOSEPHINE TO BONAPARTE.

April, 1810.

A thousand, thousand tender thanks that you have not forgotten me. My son has just brought me your letter. With what eagerness have I read it, and yet it required much time, for there was not one word in it which did not make me weep. But these tears were very sweet. I have recovered my heart all entire and such it will ever remain. There are sentiments which are even life, and which can only pass away with life. \* \* \* Adieu, my love, I thank you as tenderly as I always love you.

JOSEPHINE.

JOSEPHINE TO BONAPARTE.

Navarre, March 21, 1811.

Sire:

Amid the numerous felicitations you receive from every corner of Europe, from all the cities of France, and from each regiment of your army, can the feeble voice of a woman reach your ear, and will you deign to listen to her who so often consoled your sorrows and sweetened your pains, now that she speaks to you only of the happiness in which all your wishes are fulfilled? Having ceased to be your wife, dare I felicitate you on becoming a father? Yes sire, without hesitation, for my soul renders justice to yours, in like manner as you know mine.

\* \* \* \* \*

But it is from you that I desire to know if your child be well, if he resembles you, if I shall one day be permitted to see him; in short, I expect from you unlimited confidence, Sire, of the boundless attachment I shall cherish for you while life remains.

JOSEPHINE.

BONAPARTE TO JOSEPHINE.

March 22, 1811.

My Love:

I have received your letter. I thank you. My son is stout and very well,

I hope he will be prospered. \* \* \* He has my chest, my mouth and eyes. I hope that he will fill his destiny.

I am always pleased with Eugène. He has never caused me any dissatisfaction.  
NAPOLEON.

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BONAPARTE TO JOSEPHINE.

June 20, 1812.

I have received your letter of the 10th of June. I see no objection to your going to Milan, near the Vice-Queen. You will do well to go incognito. \* \* \* Never doubt my interest in your welfare, and my affection.

NAPOLEON.

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BONAPARTE TO JOSEPHINE.

August 25, 1813.

I have received your letter. I see with pleasure that you are in good health. \* \* \* Introduce order into your affairs. Do not expend more than \$300,000 a year. Lay aside as much yearly. \* \* \* \* If you wish to please me, so manage that I may know that you have a large treasure. Judge how bad an opinion I must have of you, if I know that you are in debt, with a revenue of \$600,000. Adieu, my love; take care of your health.

NAPOLEON.

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April 11th, 1814, Napoleon abdicated.

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BONAPARTE TO JOSEPHINE.

Dear Josephine:

Fontainebleau, March 16, 1814.

I wrote to you on the 8th of this month, and perhaps you have not received my letter. \* \* \* I have no doubt that this billet will reach you. \* \* \* How many things have I to disclose! how many are the men of whom a fatal estimate is entertained! I have heaped benefits upon millions of wretches. What have they done in the end for me? they have all betrayed me, all. I except from the number the good Eugène, so worthy of you and me. Adieu, my dear Josephine. Be resigned, as I am, and ever remember him who never forgets, and never will forget you. Farewell, Josephine.

NAPOLEON.

March 20th, 1814, Napoleon departed for the island of Elba, retaining the title of Emperor, with the sovereignty of the island of Elba, and a revenue of 6,000,000 of francs, to be paid by France.

JOSEPHINE TO NAPOLEON AT ELBA.

Sire:

Malmaison, May, 1814.

Now only, can I calculate the whole extent of the misfortune of having beheld my union with you dissolved by law. Now, do I indeed lament being no more than your friend, who can but mourn over a misfortune great as it is unexpected. It is not the loss of a throne that I regret on your account. I know, from myself, how such a loss may be endured. But my heart sinks from the grief you must have experienced on separating from the old companions of your glory. You must have regretted, not only your officers, but soldiers, whose countenances even, names, and brilliant deeds in arms, deprived of their chief, who so often shared in their toils, must have struck your soul with unutterable grief. In that sorrow especially do I participate.

You will also have to mourn over the ingratitude and falling away of friends, in whom you deemed you could confide. Ah, sire, why can I not fly to you! why cannot I give you the assurance that exile has no terms save for vulgar minds, and that, far from diminishing a sincere attachment, misfortune imparts to it new force! \* \* \* \* Say but the word and I depart. Adieu, sire; whatever I could add would still be too little. It is no longer by words that my sentiments for you are to be proved, and for actions your consent is necessary.

JOSEPHINE.

A few days after writing the above, Josephine died (May 29th, 1814), in the arms of her beloved children, Eugène and Hortense.

ANDREW JACKSON'S WIFE TO HER HUSBAND.

My Dear Husband:

February 8, 1813.

Your letter of the 18th January from the mouth of the Cumberland River came safe to hand. It was everything to me. I rejoiced, I was happy to hear you were in health. It was my nightly prayer to the Almighty God. My thoughts are forever on thee. Where'er I go, where'er I turn, my thoughts, my fears, my doubts distress me. Then a little my hope revives again, and that keeps me alive. Were it not for that I must sink; I should die in my present situation. But my blessed Redeemer is making intercession with the Father for us to meet again, to restore you to my bosom, where every vein, every pulse beats high for your health,

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your safety, and your wishes crowned. Do not, my beloved husband, let the love of country, fame and honor make you forget you have one. Without you, I would think them all empty shadows. \* \* \* \* \*

May the Almighty God of Heaven shower down His blessings, His mercy on you, assist you in the ways of life, in the ways of righteousness, be your shield in the time of danger, support you in all things, and keep you in the paths of wisdom, —the ways thereof is peace afar. Well, think on me, your dearest friend on earth.

MR. A. JACKSON:

RACHEL JACKSON.



GEN. GEORGE WASHINGTON'S ADVICE TO MISS NELLIE CUSTIS (HIS STEP-DAUGHTER)  
IN THE SELECTING OF A HUSBAND.—AN EXTRACT.

Men and women feel the same inclination towards each other now that they always have done, and which they will continue to do, until there is a new order of things; and you, as others have done, may find that the passions of your sex are easier raised than allayed. Do not, therefore, boast too soon, nor too strongly, of your insensibility. \* \* \* Love is said to be an involuntary passion, and it is, therefore, contended that it cannot be resisted. This is true in part only, for like all things else, when nourished and supplied plentifully with aliment, it is rapid in its progress; but let these be withdrawn, and it may be stifled in its growth. Although we cannot avoid first impressions, we may assuredly place them under guard. \* \* \* When the fire is beginning to kindle and your heart growing warm, propound these questions to it. Who is this invader? Have I a competent knowledge of him? Is he a man of good character? A man of sense? For, be assured, a sensible woman can never be happy with a fool. What has been his walk in life? \* \* \* Is his fortune sufficient to maintain me in the manner I have been accustomed to live, and as my sisters do live? And is he one to whom my friends can have no reasonable objection? If all these interrogatories can be satisfactorily answered, there will remain but one more to be asked; that, however, is an important one. Have I sufficient ground to conclude that his affections are engaged by me? Without this the heart of sensibility will struggle against a passion that is not reciprocated.

Yours affectionately,

GEORGE WASHINGTON.

The following is a fac-simile of the original letter written by John Wesley, in the 70th year of his age, to Mrs. Eliza Bennet, London, Eng., Feb. 12, 1773. Given by her daughter to Dr. Wm. Gray, of Philadelphia, as compensation for medical services. Dr. Gray willed the letter to Julius King, of Cleveland, Ohio, and he presented it to Mr. Lou. Burt, of Detroit, Mich., in whose possession it now remains.

Feb. 12 / 1773

My Dear Sister

When we draw near unto God in his appointed ways, He will surely draw us to unto us. Pray remember Mr. Glasbrook's of writing in some measure, & you will find the same Blessing. And when you write, encourage Mr. Stakely to do at Waterford, as he did at Limerick. I am glad Mr. Scott has so much courage as to resume the Preachers: And still more so, that Mr. Flenty is rather a Friend than an Enemy: This hath God wrought!

I can observe by Mr. Dawson's manner of writing, a very considerable Change in her Spirit. More acquaintance with God, more Humility, & more entire simplicity. There is an amiable Woman: I love her much: And so I do all of the Family that I know.

Charles Harrison does not see with my eyes, or he need have gone no further than Athlone. I wish he did not make a foolish bargain at Cork, one that he will repent of as long as he lives. He surely will, if he does <sup>not</sup> acknowledge God in his way, but learn to his own understanding.

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As long as you trust, not in yourself  
 but in Him that has all power in Heaven  
 & in Earth, you will find His Grace sufficient  
 for you, & His strength made perfect in your  
 weakness. Look to Him continually; & trust  
 on Him, that you may increase with all  
 the increase of GOD! I am,

My Dear Sister  
 Your ever affectionate Brother  
 J. Wesley

[Copy.]

Feb. 12, 1773.

My Dear Sister:

When we draw near unto God in His appointed ways He will surely draw nigh unto us. Pray remember Mr. Glasbrook of using the same means and you will find the same blessing, and when you write, encourage Mr. Slater to do at Waterford as he did at Limerick. I am glad Mr. Scott has so much courage as to receive the preachers, and still more so, that Mr. Fleury is rather a friend than an enemy. This hath God wrought!

I can observe by Mrs. Dawson's manner of writing, a very considerable change in her spirit; more acquaintance with God; more humility, and more artless, simple love. She is an amiable woman. I love her much, and so I do all of the family that I know.

Charles Harrison does not see with my eyes or he need have gone no farther than Athlone. I wish he does not make a foolish bargain at last, one that he will repent of as long as he lives. He surely will if he does not acknowledge God in His way, but lean to his own understanding.

As long as you trust, not in yourself, but in Him that has all power in Heaven, and in earth, you will find His Grace sufficient for you and His strength made perfect in your weakness. Look to Him continually and trust on Him, that you may increase with all the increase of God. I am,

My Dear Sister,

Your ever affectionate Brother,

J. WESLEY.

DANIEL WEBSTER TO MISS PHEBE COLEMAN.

Dear Phebe Coleman:

I was much obliged to your mother for bringing you to see me when I was at the Astor House. I send you my autograph, and pray you to believe that, for your father and mother's sake, as well as your own, I shall always be your friend.

DAN'L WEBSTER.

CHARLES DICKENS TO HIS SON ON GOING TO COLLEGE.

My Dear Harry:

I have your letter here this morning. I inclose you another check for £25 Now observe attentively. We must have no shadow of doubt. Square up everything whatsoever it has been necessary to buy. Let not a farthing be outstanding on any account when we begin together with your allowance. Be particular in the minutest detail. I wish to have no secret from you in the relations we are to establish together, and I, therefore, send you Joe Chitty's letter bodily. Reading it you will know exactly what I know, and will understand that I treat you with perfect confidence. \* \* \* \* \*

You know how hard I work for what I get; and I think you know that I never had money help from any human creature after I was a child. \* \* \* \* \*  
 Whatever you do, above all other things, keep out of debt and confide in me. If you ever find yourself on the verge of any perplexity, come to me. You will never find me hard with you while you are manly and truthful. As your brothers have gone away one by one, I have written to each of them what I am now going to write to you. You know that you have never been hampered with religious forms of restraint, and that with mere unreasoning forms I have no sympathy. But I most strongly and affectionately impress upon you the priceless value of the New Testament, and the study of that book as the one unfailing guide in life. Deeply respecting it, and bowing down before the character of our Saviour as separated from the vain constructions and inventions of men, you cannot go very wrong, and will always preserve at heart a true spirit of veneration and humility. Similarly I impress upon you the habit of saying a Christian prayer every night and morning. These things have stood by me all through my life; and remember that I tried to render the New Testament intelligible to you and lovable by you when you were a mere baby. And so God bless you. Ever your affectionate father,

CHARLES DICKENS

JOHN G. WHITTIER TO R. S. RANTOUL.

R. S. Rantoul Esq.

Danvers, Second month, 11th, 1880

I am not able to accept thy invitation to attend the meeting to-morrow. I need not say I fully approve of its object. There may possibly be some differences

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of opinion as to the legislation needed for the relief of Ireland, and as to the share which unjust laws, oppressive landholders, and unthrifty tenants have had in producing the present distress, but the important fact to us is, that there is great suffering, and that we are called upon to relieve it at once. It is an exigency which cannot wait for the slow remedies of wiser legislation, and social and industrial reforms. Starvation cannot be argued with; the gaunt spectre cannot be laid by speeches and resolutions. We must share our abundance of bread with the hungry. We are one great brotherhood, children of Him whom our ancestors truly called the All-Father, and it is not for us to ask the old question of Cain: "Am I my brother's keeper?" Whenever and wherever men, women and children suffer we are bound, irrespective of any considerations of nationality, creed, class or color, to relieve them. Massachusetts has never failed to respond to the call of need, and now, as heretofore, I doubt not the blessing of those who are ready to perish will come upon her. I am truly thy friend,

JOHN G. WHITTIER.

JOHN WESLEY TO JOHN KING (ONE OF HIS PREACHERS IN AMERICA).

My Dear Brother:

North Leeds, July 28, 1775.

Always take advice or reproof as a favor; it is the surest mark of love. I advised you once, and you took it as an affront: nevertheless I will do it once more.

Scream no more, at the peril of your soul. God now warns you by me, whom He has set over you.

Speak as earnestly as you can, but do not scream. Speak with all your heart, but with a moderate voice. \* \* \* \* \*

O John, pray for an advisable and teachable temper! By nature you are very far from it: you are stubborn and headstrong. Your last letter was written in a very wrong spirit. If you cannot take advice from others, surely you might take it from your affectionate brother.

JOHN WESLEY

LADY JANE GREY TO HER FATHER, THREE DAYS BEFORE HER EXECUTION.

Father:

Although it has pleased God to hasten my death by you, by whom my life should rather have been lengthened, yet I can so patiently take it, that I yield God more hearty thanks for shortening my woeful days, than if all the world had been given into my possession, with life lengthened at my own will. \* \* \* \* \*  
Although perhaps it may seem woeful, yet there is nothing which can to me be more

welcome, than from this vale of misery to aspire to that heavenly throne of all joy and pleasure with Christ my Saviour, in whose steadfast faith (if it may be lawful for the daughter so to write to the father) the Lord that hath hitherto strengthened you, so continue to keep you, that at the last we may meet in heaven, with the Father, Son, and Holy Ghost.

I am,  
Your obedient daughter till death,  
JANE DUDLEY.

DR. SAMUEL JOHNSON TO MRS. PIOZZI.

Madam:

July 2, 1784.

If I interpret your letter rightly, you are ignominiously married; if it is yet undone, let us *once more talk together*. If you have abandoned your children and your religion, God forgive your wickedness; if you have forfeited your fame and your country, may your folly do no further mischief. If the last act is yet to do, I who have loved you, esteemed you, revered you, and *serv'd you*, I who long thought you the first of womankind, entreat that, before your fate is irrevocable, I may once more see you. I was, I once was, madam, most truly yours,

SAM. JOHNSON.

MRS. PIOZZI TO DR. SAMUEL JOHNSON.

Sir:

July 4, 1784.

I have this morning received from you so rough a letter in reply to one which was both tenderly and respectfully written that I am forced to desire the conclusion of a correspondence which I can bear to continue no longer.

Farewell, dear sir, and accept my best wishes. You have always commanded my esteem, and long enjoyed the fruits of a friendship, *never infringed by one harsh expression on my part during twenty years of familiar talk. Never did I oppose your will, nor can your unmerited severity itself lessen my regard*, but till you have changed your opinion of Mr. Piozzi, let us converse no more. God bless you.

ROBERT BURNS TO MISS ELLISON BEOBIE.

Lochlea, 1783.

I verily believe, my dear E., that the pure genuine feelings of love are as rare in the world as the pure genuine principles of virtue and piety. This, I hope, will account for the uncommon style of all my letters to you. \* \* \*

I don't know how it is, my dear, for though, except your company, there is

nothing on earth gives me so much pleasure as writing to you, yet it never gives me those giddy raptures so much talked of among lovers. \* \* \* \*

The sordid earth-worm may profess love to a woman's person, whilst in reality his affection is centered in her pocket; and the slavish drudge may go a-wooing as he goes to the horse-market, to choose one who is stout and firm, and as we may say of an old horse, one who will be a good drudge and draw kindly. I disdain their dirty, puny ideas. I would be heartily out of humor with myself, if I thought I were capable of having so poor a notion of the sex, which was designea to crown the pleasures of society.

R. B.

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HENRY CLAY'S MOTHER'S LAST LETTER TO HIM.

My Dear Son,  
 Woodfor' Ky., Sept'r 13th, 1837.  
 Your kind favor of the 14th of August came to hand a few days ago. Rest assured, my son, I feel glad that you have got again to the bosom of your family, and found them well. I have been a great deal worse than I was when I had the pleasure of seeing you last. I can make out to cross the room, with the help of a staff or some one's arm. To-day I feel better, having had a good night's rest. My cough is not so bad as it was. Mr. Watkins still enjoys his usual health, and joins in love to Lucretia (Mrs Clay) and to the rest of the family. Pray write me when convenient. That God may bless you, my son, is the sincere prayer of your mother.

Mr. HENRY CLAY.

ELIZABETH WATKINS.

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HANNAH ARNOLD TO BENEDICT ARNOLD.

Dear Childe:  
 Norwich, April 12, 1754.  
 I received yours of 1 instant, and was glad to hear that you was well; pray my dear let your first concern be to make your peace with god as itt is of all concerns of ye greatest importance. Keep a steady watch over your thoughts, words, and actions, be dutifull to seperiors, obliging to equalls and affibel to inferiors. from your affectionate,

HANNAH ARNOLD.

P. S. Your father and aunt joyns with me in love and servis to yourself, your sister is from home.

To

Mr. benedict arnold,  
 at  
 Canterbury.

## ROBERT SOUTHEY TO A YOUNG AUTHOR.

Dear Sir:

Keswick, 15 Sept., 1831.

If you publish your poem, I cannot but consider your desire of dedicating it to me, as a compliment which an old author who thinks he has deserved well of his countrymen, must always be gratified by receiving from a young one who is likely to pursue the same honorable course. But I advise you not to publish.

\* \* \* \* \*

Let your fruit ripen, and it will amply repay you for its culture, but do not gather it green. And be assured that no advice was ever offered with more sincere good will, and that I shall not meet you as a stranger if chance at any time should bring you in my way. God bless and prosper you.

Yours very truly,

ROBERT SOUTHEY.

## MISS LOUISA M. ALCOTT TO BOYS.

My Dear Little Men:

I was very much pleased to get such a fine batch of letters, and much surprised at the curious coincidences of my imaginary and your real school. I am glad you like my boys, for you are the best judges of the truth of the pictures I drew of them. If I had known of your school before I wrote the book, I should have been tempted to ask Mr. Beck to let me come and study you a little, and put you into the story. I wrote it in Rome, and had not a boy anywhere to refresh myself with, so I recalled many of my own early scrapes, and got some artists and gentlemen to tell me theirs, and just popped the pranks into my book. \* \* \*

With best wishes to you, every one, and regards to Mr. and Mrs. Beck, I am, my dear lads, very sincerely your friend,

L. M. ALCOTT.

## CARLYLE'S LETTER TO A YOUNG MAN.

My Dear Sir:

London, September 21, 1841.

The truthful, genial temper manifested in your letter cannot but increase the interest I felt in you. It will be good news in all time coming to learn that such a life as yours unfolds itself according to promise, and becomes in some tolerable degree what it is capable of being. The problem is your own, to make or to mar: a great problem for you, as the like is for every man born into this world.

\* \* \* \* \*

You can take comfort in the meanwhile, if you need it, by the experience of all wise men, that a right heavy burden is precisely the thing wanted for a young, strong

man. Grievous to be borne, but bear it well; you will find it one day to have been verily blessed. "I would not for any money," says the brave Jean Paul in his quaint way, "have had money in my youth." He speaks a truth there, singular as it may seem to many.

I have no time here, in this immeasurable treadmill of a place, to answer letters. But you may take it for a new fact that if you can, as you say, write without answer, your letters shall be altogether welcome. If at any time a definite service can be done by answering, doubt not I shall make time for it. I subscribe myself in great haste yours with true wishes and hopes.

T. CARLYLE.

MRS. LINCOLN ON THE RECEIPT OF A MEDAL IN MEMORY OF HER HUSBAND,  
ABRAHAM LINCOLN.

Gentlemen:

Chicago, January 3d, 1867.

I have received the medal you have sent me. I cannot express the emotion with which this proof of the sentiments of so many thousands of your countrymen fills me. So marked a testimony to the memory of my husband, given in honor of his services in the cause of liberty, by those who in another land work for the same great end, touches me profoundly, and I beg you to accept, for yourselves and those whom you represent, my most grateful thanks.

I am, with the profoundest respect, your most obedient servant,

MARY LINCOLN.

KING OF SIAM TO GEN'L U. S. GRANT.

Sir:

The Grand Palace, Bangkok, April 11, 1879.

I have very great pleasure in welcoming you to Siam. It is, I am informed, your pleasure that your reception should be a private one; but you must permit me to show, as far as I can, the high esteem in which I hold the most eminent citizen of that great nation which has been so friendly to Siam, and so kind and just in all its intercourse with the nations of the East.

TECUMSEH TO GEN'L W. H. HARRISON.

Brother:

I give you a few words until I will be with you myself.

TECUMSEH.

Brother, at Vincennes, I wish you to listen to me whilst I send you a few words, and I hope that they will ease your heart; I know you look on your young men and your women and children with pity, to see them so much alarmed.

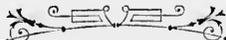
Brother, I wish you now to examine what you have from me. I hope that it

will be a satisfaction to you, if your intentions are like mine, to wash away all these bad stories that have been circulated. I will be with you myself in eighteen days.

\* \* \* \* \*

Brother, if I find that I can be with you in less time than eighteen days I will send one of my young men before me, to let you know what time I will be with you.

July 4th, 1811.



## Letters of Congratulation.

A letter of congratulation is one written to a friend who has experienced some good fortune or great joy.

Such a letter should of course be written in a lively, cheerful style, suited to the occasion, and should be free from all admixture of envy or foreboding. It should be a rose without a thorn. If there is any unpleasant news to communicate, concerning yourself or any one else, or if you have any advice to give, leave it for a subsequent letter.

Exaggerated expressions of joy have an air of insincerity, and should therefore be avoided. To sum up all, in a word—*feel right, and write as you feel.*

The following letters will illustrate our remarks:

THOMAS JEFFERSON TO HIS SISTER ON HER MARRIAGE.

My Dear Sister:

Paris, July 12, 1788.

My last letters from Virginia inform me of your marriage with Mr. Hastings Marks. I sincerely wish you joy and happiness in the new state into which you have entered. I have seen enough of Mr. Marks to form a very good opinion of him, and to believe that he will endeavor to render you happy. I am sure you will not be wanting on your part. You have seen enough of the different conditions of life to know that it is neither wealth nor splendor, but *tranquillity* and occupation, which give happiness. This truth I can confirm to you from larger observation and a greater scope of experience.

I should wish to know where Mr. Marks proposes to settle and what line of life he will follow. In every situation I should wish to render him and you every service in my power, as you may be assured I shall ever feel myself warmly interested in your happiness, and preserve for you that sincere love I have always borne you. My daughters remember you with equal affection, and will one of these days tender it to you in person. They join me in wishing you all earthly felicity and a continuance of your love to them.

Accept assurances of the sincere attachment with which I am, my dear sister,  
Your affectionate brother,

TIL. JEFFERSON.

SIR WALTER SCOTT TO ROBERT SOUTHEY ON HIS INVESTITURE AS POET LAUREATE.

Edinburgh, November 13, 1813.

I do not delay, my dear Southey, to say my gratulator. Long may you live, as Paddy says, to rule over us, and to redeem the crown of Spenser and of Dryden to its pristine dignity. \* \* \* \* \*

I was greatly delighted with the circumstances of your investiture. It reminded me of the porters at Calais with Dr. Smollett's baggage, six of them seizing one small portmanteau and bearing it in triumph to his lodgings. \* \* \* \* \*

Adieu, my dear Southey; my best wishes attend all that you do, and my best congratulations every good that attends you—yea, even this, the very least of Providence's mercies, as a poor clergyman said when pronouncing grace over a Lerring. \* \* \* \* \*

My best compliments attend Mrs. Southey and your family.

Ever yours,

WALTER SCOTT.

TO A GENTLEMAN ELECTED TO CONGRESS.

Metropolisville, Nov. 5, 1875.

Hurrah! the battle is fought and the victory won! Give me your hand, old friend, while I give it a good squeeze of congratulation on your election. The result has not surprised me in the least. I knew you would be elected, because I knew that you deserved to be, and that the people of your district had sense enough to know it too. Some say, "Principles, not men;" but I say, "Principles *and* men." This honor is as much a tribute to your personal worth as to the correctness of your principles. Just such men as you are needed in Congress—never more than now; and I believe you will fulfill every expectation, and honor yourself and your constituents. That such may be the case shall ever be the prayer of—

Yours faithfully,

JAMES HOPEWELL.

CHARLES GOODMAN, Esq., Pleasant Valley, Utopia.



A letter of condolence is one written to a friend who has suffered some grievous loss or bereavement.

To write a good letter of condolence, one that shall comfort and console the sufferer, requires good taste and fine feeling. Persons often, by injudicious words, probe afresh the wound they are trying to heal. In offering condolence, do not call up the harrowing details of the sad event, nor attempt to argue the sufferer out of his (or her) sorrow. Reasons that appeal to the head cannot touch the heart. Above all, do not reflect any blame, directly or indirectly. What the bleeding heart most needs, in the first gush of grief, is sympathy—that genuine, tearful sympathy that lessens another's grief by sharing it. The expression of this in a few loving words, and a pious reference to the great source of consolation, are all that a letter of condolence requires.

The following letters afford excellent illustrations of this kind of composition:

TO A SISTER ON THE DEATH OF A CHILD.

[The following tender and touching letter was written by a celebrated American authoress. The bereaved mother said that no other letter gave her so much comfort.]

Sister Darling:

I cannot write what is in my heart for you to-day; it is too full—filled with a double sorrow, for you and for myself. Tears blind me; my pen trembles in my hand. Oh, to be near you! to clasp you in my arms! to draw your head to my bosom and weep with you! Darling, God comfort you, I cannot.

## ANOTHER ON THE DEATH OF A BABE.

[The concluding sentences are very beautiful and appropriate.]

My Dear Mary:

Charleston, S. C., Dec. 4, 1875.

I feel that a mother's sorrow for the loss of a beloved child cannot be assuaged by the commonplaces of condolence; yet I must write a few lines to assure you of my heartfelt sympathy in your grief. There is one thing, however, that should soften the sharpness of a mother's agony under such a bereavement. It is the reflection that little children are pure and guileless, and that "of such is the kingdom of heaven." "It is well with the child." Your precious babe is now a treasure laid up in a better world, and the gate through which it has passed to peace and joy unspeakable is left open, so that you, in due time, may follow. Let this be your consolation.

Affectionately yours,

Mrs. MARY BROWNING, Norfolk, Va.

SARAH YOUNG.

## LA FAYETTE TO JEFFERSON, ANNOUNCING THE DEATH OF MADAME DE LA FAYETTE.

[The following sadly beautiful letter, though not strictly a letter of condolence, relates to the subject of death, and therefore belongs to this class.]

My Dear Friend:

Anteuil, January 11, 1808.

The constant mourning of your heart will be deepened by the grief I am doomed to impart to it. Who better than you can sympathize for the loss of a beloved wife? The angel who for thirty-four years has blessed my life, was to you an affectionate grateful friend. Pity me, my dear Jefferson, and believe me, for ever, with all my heart,

Yours,

LA FAYETTE.

## THOMAS JEFFERSON TO JOHN ADAMS ON THE DEATH OF MRS. ADAMS.

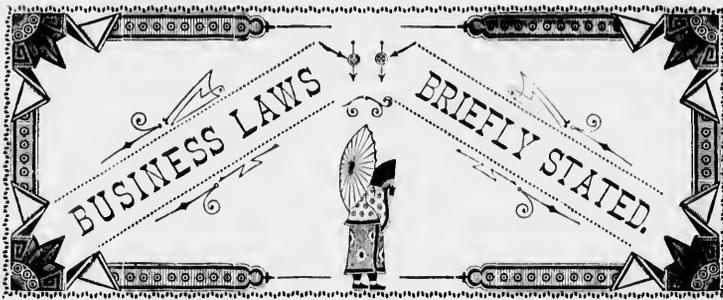
[The following is probably one of the finest models of a letter of condolence that this kind of literature affords.]

Monticello, November 13, 1818.

The public papers, my dear friend, announce the fatal event of which your letter of October the 20th had given me ominous foreboding. Tried myself in the school of affliction, by the loss of every form of connection which can rive the human heart, I know well, and feel what you have lost, what you have suffered, are suffering, and yet have to endure. The same trials have taught me that for ills so immeasurable time and silence are the only medicine. I will not, therefore, by use-

less condolences, open afresh the sluices of your grief, nor, although mingling sincerely my tears with yours, will I say a word more where words are in vain, but that it is of some comfort to us both that the time is not very distant at which we are to deposit in the same cerement our sorrows and suffering bodies, and to ascend in essence to an ecstatic meeting with the friends we have loved and lost, and whom we shall still love and never lose again. God bless you and support you under your heavy affliction.

TH. JEFFERSON.



We append, in as concise a form as possible, the laws of business that are in most common daily use:

Ignorance of the law excuses no one.

The law does not require one to do impossibilities.

Principals are responsible for the acts of their agents.

The acts of one partner bind all the rest.

Each individual in a partnership is responsible for the whole amount of the debts of the firm, except in cases of special partnership.

A receipt for money is not always conclusive.

Signatures made with a lead pencil are held good in law.

A contract made with a minor is void.

Contracts made on Sunday cannot be enforced.

No consideration is sufficient in law if it be *illegal in its nature*.

An agreement without consideration is void.

An oral agreement must be proved by evidence. A written agreement proves itself. The law prefers written to oral evidence because of its precision.

Written instruments are to be construed and interpreted by the law according to the simple, customary and natural meaning of the words used.

No evidence can be introduced to contradict or vary a written contract, but it may be received in order to explain it when such evidence is needed.

A note made on Sunday is void.

A note by a minor is voidable.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

If the time of payment of a note is not named, it is payable on demand.

Value received should be written in a note, but, if not, it may be supplied by proof.

The payee should be named in a note unless payable to bearer.

The time of payment of a note must not depend on a contingency. The promise must be absolute.

The maker of an accommodation bill or note is not bound to the person accommodated, but is bound to all other parties, the same as if there was a good consideration.

Checks or drafts should be presented for payment without unnecessary delay.

Checks and drafts should be presented during business hours; but in this country it is not compulsory except in the case of banks.

If the drawee of a check or draft has changed his residence, the holder must use due and reasonable diligence to find him.

If one who holds a check as payee, or otherwise, transfers it

to another, he has a right to insist that the check be presented on that day, or, at farthest, on the day following.

An indorsement of a bill or note may be written on the face or back.

An indorser may prevent his own liability to be sued by writing *without recourse*, or similar words.

An indorsee has a right of action against all whose names were on the bill when he received it.

A note indorsed in blank (the name of the indorser only written) is transferable by delivery, the same as if made payable to bearer.

If a note or bill is transferred as security, or even as payment of a pre-existing debt, the debt revives if the note or bill be dishonored.

The holder of a note may give notice of protest to all the previous indorsers, or to only one of them. In the latter case, he should select the last indorser, and the last should give notice to the last before him, and so on through. Each indorser must send notice the same day or the day following. Neither Sunday nor any legal holiday is counted in reckoning time in which notice is to be given.

If a letter containing a protest of non-payment be put into the postoffice, any miscarriage does not affect the party giving notice. Notice of protest may be sent either to the place of business or to the residence of the party notified.

If two or more persons, as partners, are jointly liable on a note or bill, notice to one of them is sufficient.

The loss of a note is not sufficient excuse for not giving notice of protest.

The finder of negotiable paper, as of all other property, must make reasonable efforts to find the owner, before he is entitled to appropriate it to his own benefit. If the finder conceal it, he is liable to the charge of larceny or theft.

Commercial Forms.

Negotiable Note.

\$873.40.

Boston, Sept. 21, 1882.

Thirty days after date I promise to pay  
Horace Walpole, or order, Eight Hundred  
and Seventy-three  $\frac{40}{100}$  Dollars, at the Old  
Colony Bank. Value received.

J. H. Crouse

Non-Negotiable Note.

\$175.00.

Cardington, Ohio, July 25, 1882.

Sixty days after date I promise to pay  
Howard Payne One Hundred and Seventy-  
five Dollars. Value received.

J. F. Rosenbaum.

## Demand Note.

\$300.00.

Clinton, N. Y., Sept. 1st, 1881.

On demand, I promise to pay Clarke Evans, or order,  
Three Hundred Dollars, with interest.

Value received.

Harry Blodgett.

## Joint and Several Note.

\$1,500.00.

Sixty days after date, we or either of us, promise to pay to  
Hiram Sanford, or order, Fifteen Hundred Dollars.

Value received.

Robert Fulton.

Charles Darwin.

## Judgment Note.—Common Form.

\$100.00.

Cincinnati, O., Sept. 6th, 1881.

Three months after date, I promise to pay Henry Holmes,  
or order, One Hundred Dollars, with interest at the rate of  
seven per cent. per annum, from maturity until paid, without  
dalcation. And I do hereby confess judgment for the above  
sum, with interest and costs of suit, a release of all errors, and  
waiver of all rights to inquisition and appeal, and to the  
benefit of all laws exempting real or personal property from  
levy and sale.

Wesley Wood.



## Judgment Note, with Waiver and Power of Attorney.

\$500.00.

Chicago, Ill., May 3d, 1883.

Three months after date, I promise to pay to the order of  
A. S. Brown Five Hundred Dollars, at the First National  
Bank, for value received, with interest at seven per cent. per  
annum, from maturity until paid.

Moses Watts.



KNOW ALL MEN BY THESE PRESENTS:

That I, the undersigned, am justly indebted to A. S. Brown, upon a certain promissory note, of even date herewith, for five hundred dollars, value received, with interest at the rate of seven per cent. per annum, from maturity until paid, and maturing August 3d and 6th, 1883.

Now, therefore, in consideration of the premises, I do hereby make, constitute, and appoint John Wells, or any attorney of any court of record, to be my true and lawful attorney, irrevocably for and in my name, place, and stead, to appear in any court of record, in term time or in vacation, in any State or Territory of the United States, at any time after said note becomes due, to waive the service of process, and confess judgment in favor of the said A. S. Brown, or his assigns, upon said note, for the amount thereof and interest thereon, together with costs and ten dollars attorney's fees; and also to file a cognovit for the amount thereof, with an agreement therein, that no proceeding in error or appeal shall be prosecuted, or bill of equity filed to interfere in any manner with the operation of said judgment, and also to release all errors that may intervene in the entering up of said judgment or issuing execution thereon; to waive all benefits which I may be entitled to by virtue of any homestead, exemption, appraisement or valuation law, now or hereafter in force, wherever such judgment may be entered or enforced, hereby ratifying and confirming all that my said attorney shall or may do, by virtue hereof.

Witness my hand this 1st day of May, 1883.

MOSES WATTS.



*Note for Indiana.*

\$100.00.

*Hanover, Ind., July 4th, 1882.*

*On demand, for value received, I promise to pay J. P. Wilkins & Co., or order, One Hundred Dollars, with interest; payable without any relief whatever from valuation or appraisement.*

*Samuel Snorer.*

## Form of Check.

|                                                                                   |                                                                                          |                               |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------|
|  | No. 342.                                                                                 | Detroit, Mich., Nov. 3, 1882. |
|                                                                                   | <b>THE MERCHANTS' AND MANUFACTURERS' NATIONAL BANK,</b><br>OF DETROIT.                   |                               |
|                                                                                   | <i>Pay Thorndike Course, or order,</i><br><i>Five Hundred Dollars, in current funds.</i> |                               |
|                                                                                   | \$500.00.                                                                                | G. B. Dickerson & Co          |

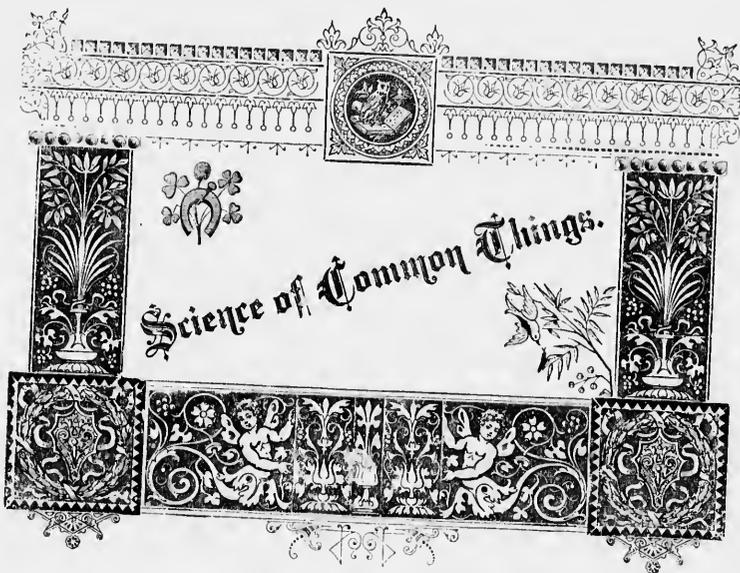
## Form of Draft.

|                                  |                                                                                                                                                                                                                        |                                |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>M. W. ELLSWORTH &amp; CO.</b> | \$260.00                                                                                                                                                                                                               | Detroit, Mich., Nov. 15, 1882. |
|                                  | <i>Thirty days after sight, pay to the order of</i><br><i>E. C. Brock, Cashier, Two Hundred and Fifty</i><br><i>Dollars, at Commercial Bank, St. Louis, Mo.</i><br><i>Value received, and charge to the account of</i> |                                |
|                                  | To Homer Patton & Co.,<br>St. Louis, Mo. <i>M. W. Ellsworth &amp; Co</i>                                                                                                                                               |                                |
|                                  | No. 528.                                                                                                                                                                                                               |                                |

## Form of Receipt.

|                                                                                                                                                            |                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| No. 342.                                                                                                                                                   | Philadelphia, Penn., Nov. 16, 1882. |
| <b>Received of G. B. Dickerson &amp; Co.</b><br><i>Eighteen Hundred Dollars, in full of</i><br><i>account.</i><br>\$1,800.00. <i>Mescochague Paper Co.</i> |                                     |

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BY PROF. L. G. GORTON.

**W**HY do we breathe? To purify the blood. *How does breathing purify the blood?* The oxygen of the air combines with the carbon of the blood, forming carbonic acid. *Is the air we exhale lighter or heavier than pure air?* At first, being rarefied by the heat of the body, it is lighter, but upon cooling it becomes heavier and descends. Accordingly rooms should be ventilated both at the top and at the bottom. *What is carbon?* It is an elementary substance, and is found in great abundance in nature. It exists in three

forms, viz., charcoal, graphite and diamond. *Why is it dangerous to burn charcoal in rooms?* Because the carbon of the charcoal unites with the oxygen of the air, forming carbonic acid. *What are the effects of breathing carbonic acid?* The blood is not purified, and this causes drowsiness, stupor, and finally death. *Of what is the atmosphere composed?* It is composed of twenty-one parts oxygen and seventy-nine parts nitrogen. *What is oxygen?* It is an elementary gaseous body, the most electro-negative element known. When united with twice its bulk of hydrogen it forms water, and is found in compound with nearly every known element. *What is an element?* An element is a body composed of but one kind of atoms. *What is a compound?* A compound is a body composed of two or more kinds of atoms. *What is combustion?* It is the rapid union of elements in forming compounds. *Why does exercise make one feel warmer?* Because more muscular tissue is torn down, consequently more carbon is given off to unite with the oxygen, thus producing heat. *Why does blowing a fire make it burn brighter?* Because with each current of air it receives a fresh supply of oxygen. *What is nitrogen?* It is an elementary gaseous body, and the second electro-negative element known. It is found in the air, and in nearly all vegetable and animal tissue. *What is the use of nitrogen in the atmosphere?* The nitrogen is used simply to dilute or weaken the oxygen, and is not changed by respiration. *Why will a candle when placed under a closed vessel soon be extinguished?* Because the oxygen has been consumed, and the nitrogen will neither burn nor support combustion. *What is hydrogen?* It is an elementary gaseous body, the lightest known substance; when united with oxygen it forms water. *Will it support life?* It will not. *Will it support combustion?* It will not. *Will it burn?* When pure it will burn with a steady bluish light, but if mixed with air it will explode when brought in contact with fire. *What is*

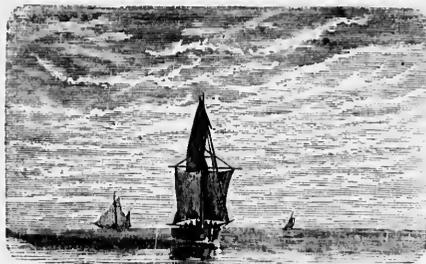
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*the gas used to illuminate the streets?* Hydro-carbon, or a compound of hydrogen and carbon; the hydrogen unites with the oxygen of the air, forming water, the carbon becomes heated to a glow, and thus gives the light. *Is an escape of illuminating gas dangerous to life?* It is dangerous to breathe, and is very liable to explode if a light is taken near it. *How can we detect an escape of gas?* By our sense of smell. *What are the other sources of hydro-carbon in our dwellings?* The decomposing animal and vegetable substance of drains and water closets. Great care should be taken to secure effective drainage, and in keeping the drain pipes in order. *What is heat?* Heat is a form of energy. It consists of vibratory motions of the particles of matter or results from such motions, and gives rise to the well known sensations of warmth and cold. *What are its effects?* Expansion, fusion, evaporation, and decomposition. *What are the principal sources of heat?* The sun, chemical action, mechanical action, sound, light and electricity. *Why do burning glasses set fire to combustible substances?* Because they gather all the rays of heat that fall upon them to a single point or focus, thus making the heat more intense at that point. *What is fire?* It is the rapid union of elements. *What is smoke?* Small particles of solid carbon, which have not been consumed by heat. *Why does smoke ascend?* Because it is held in heated air; when the air becomes cold the smoke settles. *Why does smoke ascend more directly one day than it does another?* Because the air is not of the same density at all times. *How is heat diffused?* By conduction, convection and radiation. *What is conduction?* The process by which heat passes from the hotter to the colder part of a body. *Why does not a piece of wood burning at one end become hot at the other?* Because wood is a bad conductor of heat. *What is convection of heat?* The method of diffusing heat by actual motion of heated fluid masses; as when hot water rises from the bottom of a vessel, and

conveys heat to the colder water above. *What is radiation of heat?* The propagation of heat by ether. *Can heat be reflected?* It can. *What is absorption of heat?* The taking off of heat by the body to which the heat is transmitted. *Why do some articles feel colder than others, when all are of the same temperature?* Because, being better conductors, they take away the heat of the hand more rapidly. *Which are the better conductors, dense or porous substances?* The dense ones, generally. *Is air a good conductor of heat?* No. *Why is a piece of ice longer in melting when wrapped in flannel?* Because the flannel is a poor conductor, and keeps the heat from reaching the ice. *Why do iron articles feel very cold in winter?* Because iron is a good conductor, and takes the heat from the hand rapidly. *Why is it painful to touch the tongue to a very cold iron?* Because the heat is taken from the tongue so rapidly the tongue is frozen. *Why is it frequently warmer when a frost sets in?* Because when a liquid is changed to a solid heat is given out. *Why is it sometimes colder when a thaw sets in?* Because when a substance changes from a solid to a liquid it takes up heat. *How is ice cream frozen?* By placing salt on pounded ice. The salt melts the ice, and in melting the heat is taken from the cream. *Why does sprinkling the streets make the air cooler?* Because the water evaporates or changes into a vapor, and whenever a liquid changes to a vapor it takes up heat. *Why does fanning the face make us cooler?* It increases the evaporation of moisture from the face by bringing fresh, dry air in contact. *What are the best reflectors of heat?* Smooth, bright surfaces. *Why are white articles of clothing cool?* Because they reflect the heat. *Why are dark articles of clothing warm?* Because black absorbs heat. *What is the cause of wind?* The temperature of different localities is unequal, consequently the air at some places is lighter than it is at others; the lighter air is forced upward by the heavier air, which, when

it flows in, partakes of a circular motion which we call wind. If a great difference in temperature exists a sudden change of air takes place and forms a *whirlwind, hurricane, or tornado*. *Why does a soap-bubble rise in the air?* Because being filled with warm air it is lighter than an equal bulk of the surrounding air. *Why does air ascend the chimney?* Because being heated by the fire it is lighter than the air of the room. *Why does the flame of a candle terminate in a point?* Because the cold air rushes to the flame from all sides, and is carried upward. *Why does blowing sharply at a candle put it out?* Because too rapid a flow of air reduces the temperature below the burning point. *Why does a lamp chimney increase the brilliancy of the flame?* Because it conducts an increase of air to the flame. *What has become of the candle when it has burned?* It has been changed to carbonic acid and water, the latter escaping as a vapor. *Why does friction produce heat?* Heat being a mode of motion of the particles of a body, friction or anything else that increases that motion produces heat. *Why on a warm day does moisture collect on the outside of an ice-pitcher?* Because the moisture of the atmosphere is condensed by coming in contact with the cold pitcher. *What causes dew?* At night the earth and all objects upon it radiate the heat received from the sun during the day and become colder than the air, and the vapor of the air coming in contact with the cooler objects is condensed and deposited in the form of dew. *Why is dew heavier on some objects than on others?* Because some objects are better radiators of heat than others. *Why is but little dew formed on cloudy nights?* Because the heat radiated from the earth is reflected back by the clouds and the earth is thus kept at nearly the same temperature as the air. *Why do heavy dews foretell rain?* Because they show that the air is well charged with moisture. *What is hoar frost?* Frozen dew. *What are clouds?* When the air is cooled the moisture in it is partially

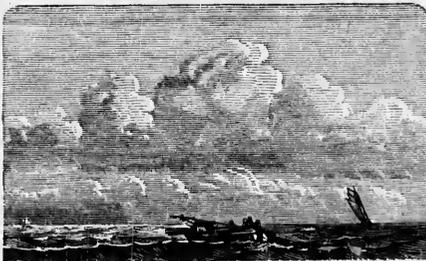
condensed and thus rendered visible as clouds. *What are fogs?* Clouds near the earth. *Why do they disappear soon after sunrise?* Because the heat of the sun expands and disperses them. *What are the different kinds of clouds?* The principal are the cirrus or "cat's-tail," the cumulus or "ball of cotton,"



*Cirrus Clouds.*

the stratus or "white sheet," and the nimbus or "rain clouds." *What produces the various shapes of clouds?* The state of the atmosphere, the electrical condition of the clouds, and the winds. *What do cirrus clouds foretell?* When they are high, thin and

light, fair weather; when they form fleecy lines across the sky, light rains or a gale of wind. *What do cumulus clouds foretell?* Fine weather when they are well defined and



*Cumulus Clouds.*

advance with the wind. Rain, when they are thin and dull and float in a direction opposite the surface wind. A thunder storm, when they increase in size and become dull and gray at sunset. *What do stratus clouds foretell?* Damp, dreary weather. *What do nimbus clouds foretell?* Rain and thunder. *What causes rain?* When a warm current of air containing a great amount of moisture comes in contact with a cold current the moisture is condensed and falls as rain. *Does rain ever*

occur without clouds? Sometimes a sudden fall of temperature will produce rain without forming visible clouds. *Why does more rain fall in March and April than in July and August?*

Because the changes in temperature are more frequent, and every fall of temperature in the air condenses its vapor. *Why then, is the weather not*

*colder before a rain?*

Because this change in temperature is in the upper currents of air, and not on the surface of the earth. *What is snow?* Snow consists of the watery particles of the atmosphere frozen for the most part in a

crystalline form. *Why is snow white?* On account of the aggregate reflection of light from the sides of minute crystals.

*Why are high mountain peaks covered with snow?*

Because the upper regions of the atmosphere are intensely cold. *What is the cause of hail?* If the rain-drops in falling pass through a current of air of low temperature the drops become frozen and

fall as hail. *What is sleet?* If snow, in falling, passes through a warm current of air, it is partially melted and becomes sleet.

*How far is the sun from the earth?* Ninety-one million miles. *What is light?* Light is that mode of motion which is capable of affecting the optic nerve. It is the vibration of an



*Stratus Clouds.*



*Nimbus Clouds.*

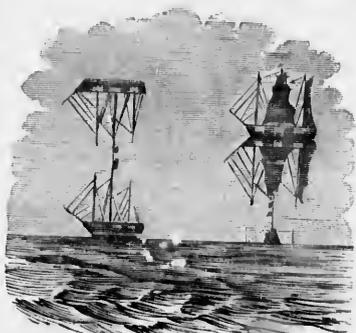
infinitely rare, exceedingly elastic, and subtle medium known as ether, which fills all space and permeates every transparent substance. *How fast does light travel?* One hundred and eighty-six thousand miles per second. *What is a ray of light?* It is the smallest portion of light discernible. *What is a beam of light?* A collection of rays. *Of what is a ray of light composed?* It is composed of seven elementary parts, giving the colors violet, indigo, blue, green, yellow, orange and red. *Why are some substances white?* Because they reflect all the light that falls upon them without changing it. *Why are some substances black?* Because they absorb all the light and reflect none. *Why are some substances red?* Because they absorb all but the red part of the wave. Blue substances absorb all but the blue, etc.



Snow Crystals.

*If a straight stick be partially submerged in water at an angle why does it appear to be bent?* Because the rays of light coming from the part of the stick which is under water are bent as they leave the water. For the same reason the apparent depth of the water is deceptive. *What causes the rainbow?* The refraction and reflection of light by the drops of falling water. *What is a halo?* It is a luminous or colored circle seen around the sun or moon under certain conditions of the atmosphere. *What is its cause?* The refraction of light by minute crystals of ice floating in the higher regions of the atmosphere. *Why do halos foretell wet weather?* Because they show a great amount of moisture in the atmosphere which will probably form

rain. *Why do stars twinkle?* Because there are a great many non-luminous bodies in space, and when they pass between us and a star they cut off its light just for an instant, thus causing the twinkling. *What are "shooting stars?"* They are not stars proper, but are non-luminous bodies coming in contact with the earth's atmosphere, and becoming ignited by their friction upon the air have the appearance of stars. *Why are meteorolites or shooting stars seen most frequently between the 12th and 14th of November of each year?* Because the earth at that time is passing through a portion of space where the greatest number of these bodies is found. *What is the mirage, and what is its cause?* Mirage is the appearance in the air of an erect or inverted image of some distant object which is itself invisible. It is most frequently seen on water, where it is termed *looming*, but has also appeared to persons traveling through deserts with such vividness as to make them believe that they



Mirage.

saw trees and springs before them in the distance. Captain Scoresby, while cruising in a whaling ship, recognized his father's vessel when distant from him more than thirty miles (and consequently below the horizon) by its inverted image in the air, though he did not previously know it was in that part of the ocean. Mirage is caused by the rays of light from the object being bent differently by different layers of the atmosphere until they are curved so as to strike the eye. *What causes twilight?* The bending and reflecting of light by the atmosphere. *What causes the colored sky at sunset?* The sun's rays are partially decomposed by the vapor that is in the

atmosphere. *Why does a highly colored sunset predict a storm?* Because it shows that the air contains a great amount of moisture.

*What is electricity?* It is that mode of motion which is manifested by the peculiar phenomena of attraction and repulsion. It is best understood by its effects. *How is the electric light produced?* In two principal ways, viz., by incandescence or glow and by the electric arc. The electricity is produced either from a powerful battery or from a magneto-electric machine. In the first method the electricity passes through platinum or carbon, and heats it until it glows. In the second case, two points, usually of carbon, are separated a short distance, and the passage of the electricity over this distance, carrying with it heated particles of carbon, gives the light. *What is the cause of lightning?* It is caused by electricity passing from the clouds to the earth. The earth and the clouds become oppositely charged, and the tension of the electricity overcomes the resistance of the air between the earth and the clouds, and passes through it. *Why does it sometimes take a zigzag course?* So as to pass where there is the least resistance. *What is heat lightning?* It is an unsteady glow of lightning seen near the horizon, and is simply the reflection of lightning so distant from us as to be invisible. *Why is it dangerous to stand near a tree during a thunder storm?* Because the tree, being a high object and a good conductor of electricity, is very liable to form the conductor for the lightning. *Why is it dangerous to be near a fire during a thunder storm?* Because smoke and flame are conductors of electricity. *Where is the safest place during a thunder storm?* In the center of a dry room, away from all conductors of electricity. *What is the cause of thunder?* Thunder is caused by the sudden rush of air into the vacuum which the electricity, as it darts with inconceivable velocity, leaves behind it. *Why is thunder sometimes loud and continuous, and at*

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*Other times broken and unequal?* Because it is sometimes near, and the sound from all parts of the flash reaches us at the same instant, and at other times it is at different distances from us, and consequently all the sound does not reach us at the same time.

*What is sound?* Sound is that mode of motion which is capable of affecting the auditory nerve. It is produced by the vibration of some elastic substance. *Why do we hear more distinctly on a damp day than we do on a dry one?* Because damp air is the better conductor of sound. *What is an echo?* It is a reflected sound. *How fast does sound travel in the air?* About eleven hundred feet per second. *What is the velocity of electricity?* Two hundred and eighty-eight thousand miles per second. *How can the distance a thunder storm is away be ascertained from seeing the flash?* By counting the number of beats of the pulse from the time the flash is seen to the time the thunder is heard, and dividing by five. The answer will be in miles.

*To what height does the atmosphere extend?* From fifty to two hundred miles. *What is the pressure of the atmosphere at the earth's surface?* Fifteen pounds to every square inch of surface. *What is the pressure on the average man?* Thirty thousand pounds, or fifteen tons. *Why does he not feel this pressure?* Because it presses equally in every direction, and on the internal as well as on the external surface of the body. *How high will the pressure of the air raise water in a pump?* About thirty feet. *Why?* Because a column of water thirty feet high and one inch area cross section weighs fifteen pounds. *How do flies walk on the ceiling?* Their feet are so formed that when they attempt to withdraw them from the ceiling a partial vacuum is formed, and the pressure of the air holds the fly up. *Why is it that when we invert a glass that is filled with water, and has a paper over the top, that the water does not fall out?* Because the upward pressure of the air holds it in. *What is the*

*weight of air?* One hundred cubic inches weigh thirty-one grains. *Why does a stove smoke when the fire is first lighted?* Because the air in the chimney is of the same temperature as the air in the room, and does not ascend. *What is the best method of conveying air to fires?* Tubes built in the walls communicating with the outer air, and terminating beneath the grates. *Why do chimneys smoke in damp weather?* The heated air in giving off its moisture becomes heavier than the outer air.

*What is a barometer?* An instrument for measuring the pressure of the atmosphere. There are two forms; the mercurial, consisting of a glass tube over thirty inches long, filled with mercury, and the aneroid, a cylindrical box of metal, with a hand to indicate the pressure. The glass tube filled with a watery fluid is a humbug. *Why is the barometer called a "weather glass?"* Because changes in the weather are preceded by changes of atmospheric pressure, and these changes are indicated by the barometer. *How can the weather be predicted by a barometer?* The rising of the barometer generally presages fair weather, the falling the contrary. A sudden change in the barometer, a sudden change in the weather; a gradual change in the barometer, a gradual change in the weather. *Which is the heavier, dry air or moist air?* Dry air. *What is a thermometer?* An instrument for denoting temperature. *Why does the mercury rise when the temperature becomes greater, and fall when it is less?* Because the mercury expands with heat and contracts with cold. *Why does water boil?* Because heat entering the lower portions of the water forms vapor bubbles there, which rapidly ascend. *Why is rain water soft?* Because the minerals which make water hard do not evaporate. *Why is it difficult to wash with hard water?* Because the soap unites with the minerals of the water and loses its cleansing powers. *Why is the sea salt?* The salt, which prevails largely in the earth and

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is readily soluble in water, is carried by the rivers to the ocean, and as salt does not evaporate it must remain there in solution.

*What is attraction?* The tendency of bodies to approach each other. *What is gravitation?* Every particle of matter in the universe has an attraction for every other particle, and this attraction is called gravitation. *Why does oil ascend in the wick of a lamp?* It is drawn upward by capillary attraction. For the same reason, if we dip the corner of a towel in water the whole towel will become wet. *Why do clouds gather around mountain tops?* Because they are attracted by the mountains. *Why does a feather fall more slowly than a stone?* On account of the resistance of the air; in a vacuum it would fall with the same velocity. *Why does a needle float when laid carefully on the surface of water?* The needle repels the water, thus displacing an amount of water equal to its own weight. *How do some insects walk on water?* An oily substance is secreted from their feet which repels the water, and thus the weight of the water displaced equals the weight of the insect. *Why is spring water more palatable than distilled water?* Because it contains carbonic acid. *Why does boiled water taste flat?* Because the carbonic acid has been driven off. *What is soda water?* It is water charged with carbonic acid.

*Why does gunpowder explode?* Because it is composed of potassium nitrate, charcoal and sulphur; substances which, when heated to a certain degree, unite rapidly, forming a gas that is many times larger in bulk than the powder. *Why are soap-bubbles round?* Because the air within them presses with equal force on all sides. *Why do balloons ascend in air?* Because they are filled with a gas which is rarer than air, consequently the upward pressure of the air on the bottom of the balloon is greater than the downward pressure on top of the balloon and the weight of the balloon. *Why does a kite rise*

*in the air?* It rises by the force of the wind which strikes obliquely on its under surface. *Why does a hoop roll without falling?* Owing to the tendency which matter has when revolving to retain its plane of revolution and to go in a straight line.

*Why does a top spin?* On account of the persistence of the plane of revolution. *Why is it that when we whirl a pail, that is partially filled with water, over our heads, the water does not fall out?* Because of centrifugal force, or the tendency which matter has to keep away from the center of revolution.

*Why do flat stones "skip" when thrown obliquely on water?* The water is compressed by the stone and by virtue of its elasticity it causes the stone to bound. *What causes a ball to rebound when thrown against a surface?* The ball and the surface are slightly compressed and in suddenly regaining their original forms the ball is thrown.

*What is the cause of dreams?* Weariness, or a derangement of the digestive apparatus. It is a semi-unconscious working of the mind. *Why do we cough?* Because the respiratory organs are irritated by some foreign substance and coughing is an effort to free the organs by rapidly forcing the air from the lungs.

*Why do we sneeze?* Because particles of matter enter the nostrils and excite the nerves, and sneezing is an effort to drive away these particles. The nerve can also be excited by cold air coming in contact with it. Sneezing is a sudden contraction of the respiratory muscles. *Why do some plants droop at sunset?* Plants grow by heat and light, and some do not receive force sufficient during the day to keep them erect at night.

*What is a telephone?* It is an instrument for the transmission of sound. There are two principal kinds, the string telephone and the electrical telephone. The string telephone consists of some kind of an elastic diaphragm supported at its edges so as to be free to vibrate, and having a strong cord or wire attached to its middle and extending to a similar instru-

ment at the other end of the line. A very cheap and serviceable telephone for a line not exceeding a mile in length can be made out of two cigar boxes and enough common stovepipe wire to make the line. Support the boxes, one at each end of the line, by means of strips fastened to the ends of the boxes, leaving the bottoms free to vibrate. Fasten one end of the wire to the center of one of the boxes and extend it to the other box, drawing it tightly and being careful to support all parts of it by some flexible substance as cotton or silk. See that there are no sharp turns in the wire, and that it does not touch any wood or metal excepting the boxes. A few sharp blows on the box with a pencil will serve for the call. A diaphragm of parchment may profitably be substituted for the cigar boxes. The electrical telephone demands that a person have a thorough knowledge of electricity in order to be completely understood. The sound wave is turned into an electrical wave, which travels along the wire; the electrical wave is then changed to a magnetic wave, the magnetic wave to a sound wave, which is heard.







