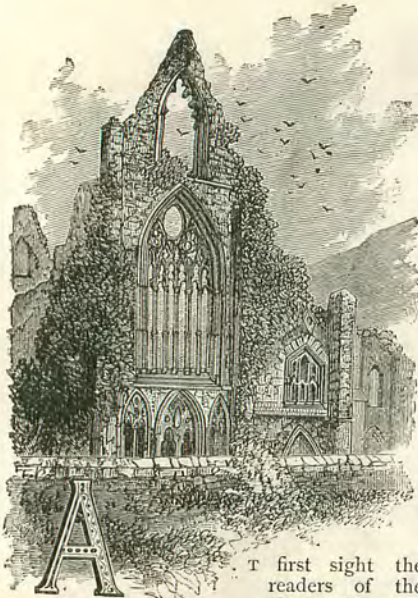


## THE "SPINSTER."



**A**T first sight the readers of the above title will naturally take it for granted that this article will be occupied either by descriptions of the several varieties of character and individual eccentricities amongst their unmarried sisters, which may afford merriment at their expense, or else will hold up for their example the good deeds and lovely characteristics of others.

But their guesses will be very "wide of the mark." I am only about to follow up an answer given in our "Correspondence" to a young friend who was anxious to know how spiders contrive to fasten their nets both up and down, and from side to side, over a considerable space, without the aid of either wings, ladders, or "stepping-stones." I am not surprised that such a question has proved a knotty one to this "Correspondent." It has puzzled thousands who have not sought a solution of the mystery in some work on entomology. I have none near me at this present time to which I can refer for your benefit, but I think I can draw from my own small store of such information, to explain the wonderful method by which our "Spinster" works.

In company with the ant, bee, and wasp, the spider holds a distinguished place for its remarkable instinct and even intelligence, its forethought, industry, patience, and the extreme beauty and durability of its work. I believe that Professor Sir John Lubbock, in a remarkable book recently published, in reference to these extraordinary insects, has, after long and careful watching and experiments upon them, given it as his opinion that, of all created living things existing in this world, the ant holds the next place in intelligence to man. But it is not with the wonders of God's work in these tribes of the insect world that I can occupy your thoughts at present, although directed in the words of Sacred Inspiration to "consider her ways and be wise." I must restrict my observations to that deft little bright-eyed representative of the manufacturing classes, of whom it is said in the Book of Proverbs, that "she taketh hold with her hands, and is in kings' palaces."

Most of you, my readers, have often felt the almost invisible yet sometimes shining gossamer threads stretched across your faces as you have strolled along the pleasant garden walks, or the lawn before your windows, and have

wondered, as older folks have done, how a wingless insect could have spread them high across your path from bush to bush; but had you only known that the tiny spinner lays a rightful claim to be the first of all our wingless aeronauts, and to devise a successful "flying-machine," perhaps your surprise would even have been greater than before.

This little worker is scientific in her way. She watches the weather and the lightness or heaviness of the atmosphere, and waits for a sunny morning and a favouring breeze. One end of her cable she attaches to her starting-point, and weaving a cobweb, like a fairy sail when it catches the wind, she seats herself within it, and launches off from the twig on which she had been waiting so wisely for her starting. Blown by the wind expected, she sails away and away, over the flower-beds and over the bushes, or over the waving grass, swayed up and down till she reaches some distant twig, at the new and happier hunting-grounds where she hopes to make her living. Here she secures fast her cable, as she did at the opposite end, then back again she travels, not now in her fairy boat, but Blondin-like on a rope, spinning a second strand all the way as she goes to strengthen it, and securing this also at her former starting-place. A third time she makes her transit, and so twining a threefold cord, whose strength, for its size, you will admit is quite surprising.

A wonderful statement in reference to what the spider has been known to accomplish came under my notice from across the Atlantic. It told of the longest suspension bridge that probably has ever been seen. This bridge extended across the Housatonic river, a short distance north of Falls Bridge, in Connecticut, suspended to a tree on one side and some other object on the opposite bank, at the amazing distance apart of between 300 and 400 feet.

You are all aware that the several tribes of spiders, even in this country, vary from each other in size and appearance, and if you take into consideration all those of which we have read, or have seen ourselves, in distant parts of the world, from the tiny "money-spinner" to the comparatively gigantic and dangerous "tarantula," the varieties will be still more remarkable. I cannot tell you whether the Singalese spider be larger than the species infesting the West Indian Islands and most southern latitudes, but where the forests abut upon the open country in Ceylon, the bridle-roads are often netted over with a web, raised at a height of from four to eight feet from the ground. So strong are the cords spun by this creature, secured to the branches of shrubs or trees on either side, that should the traveller be absorbed in thought, and unobservant of the net spread in his way, he will find it sufficiently strong to hurt his face, and even to knock off his hat. The nest, formed in the centre of the network, of which the rigging stretches far and wide, becomes at last as large as a very big wasp's nest, for it continues gaining in size, as layer after layer is rolled one over the other, like so many sheets, until a huge ball is composed of successive spinnings.

The thickness and solidity of these nests is augmented by the wings and legs of the prey which the creature has caught, and escorted into the "pretty little parlour," familiar to you all in the syren song addressed to the fly. There, in her fortress-like dwelling, this cunning spinster keeps a watch for the unwary, and in that sunny land these little winged tribes are various and beautiful in colour and in form; and amidst the dull, greyish-brown of the textile woven by their foe you may see

the prismatic glitter of wings that vie with enamel or mother o' pearl, decorating the meshes like inlaid work.

The song to which I have alluded seems to give you the idea that this industrious insect is a cruel kind of ogre; but this is unjust. Her instinct teaches her, like some other creatures—the human species included—that hunt, fish, and set traps, and work industriously for themselves and their young, to provide for her little household. Her family resides in her nest with her; and she is not treacherous, but spreads her net in the sight of all that buzz about—idle and good-for-nothing—around her.

Before I conclude my observations on the spider, I must tell you of one known by entomologists as the "trap-door spider." These are natives of the Greek islands, West Indies, and also of France and Corsica; and they make their nests, not suspended in the air in the light of day, but down in the earth. They are, in fact, miners, and they build their houses of earth, and line them with a silken web. Imagine a kind of large cork, hollowed out through the middle like a thimble. But over the opening at the top there is a thick lid, made of alternate layers of earth and web. This lid or trap-door is secured to one spot by a beautiful and strong silken hinge, secured still further by a doubling of the web of lining on each side of it, which prevents its being opened too widely. Should an enemy of the spider attempt to force an entrance, she holds it fast on the inside, as persons who have dug up the nests and looked in from the under part have seen her do. The lid is made to fit most perfectly into the opening, and overlaps it at the top; and the lining is made of many successive layers of silken webbing, till of the thickness of stout cartridge paper, and then most beautifully and smoothly finished.

Whether all spiders have a taste for music, or only a certain species, I am unable to tell you; but an instance is related by Disjouvai, of one who used to take up her position on the ceiling of a room, and over the spot where a lady used to play the harp; if the performer changed her place, the spider removed to that part of the room with her. The same love of or fascination produced by music was observed by Berthome, the celebrated violinist, who, when a boy, was followed by a spider whenever he began to play; it at last became so familiar that it would climb upon his arm, or sit on his music-desk before him. This discovery has been verified by others in reference to this insect; a well-known fact as regards both the snake and the lizard tribes.

Possibly, you may not be aware that the threads of a spider's web are drawn out from no less than 1,000 little holes in its body, and that each thread is composed of a union or twist of 4,000. Experiments have been made with a view to obtaining a silk tissue from the manufacture of the spider, as well as from that of the silkworm. Whether from their glutinous character they stuck together, or from any other cause, I do not know, but the threads destroyed each other, and the attempt proved a failure. Besides, it would require a dozen large spiders to produce as great a weight of web as a single silkworm, and the pound of silk spun by some 2,300 of the latter, would not be procured from a less number than about 27,600 female spiders.

There are no less than sixty-seven genera of this little creature, which is termed amongst entomologists *Arachnides*, and which, although I have called them insects, are, I believe, now classified by them as a distinct species, neither



insects nor crabs, and varying considerably in their several species, in size, conformation, and habits.

And now my few remarks on this little industrious spinster must be concluded. She does not supply you with honey, like the more popular "Busy Bee," of whom Dr. Watts sang a simple but immortal song, for the instruction of children so long as the world shall last; but she has some claims on your consideration which certainly should not be

forgotten. In the tidy housewife she must ever meet with a very unsparing foe; but even the former ought to grant her some quarter in certain parts of the house. In the ceiling-corners of the larder she should be regarded as a friend, and the nets which she spreads for our enemies, the large bluebottle flies, strictly respected. In the cellars, tool-houses, and stables, allow her to weave and snare her prey in peace, for the horses will accord you a vote of thanks if you do. But even to you,

as to herself and them, her wonderful work may some day prove of use. No better plaster could my youthful readers find, were they to cut their too frequently mischievous little hands, than a good-sized spider's web. Wind it round the wounded finger two or three times, and prove by a satisfactory experience the truth of this assertion, from the pen of your friend,

S. F. A. CAULFIELD.

## ANSWERS TO CORRESPONDENTS.

## EDUCATIONAL.

MARGARETTA.—The article "How to Improve One's Education" appeared in vol. i. We advise you to apply to Miss A. C. Moore, Oakfield, Eltham, secretary of the Society for the Encouragement of Home Study. Prizes are given. Subscription, one guinea.

TOPSEY will find Miss Roberts' classes (Florence Villa, Torquay) a great help. Write and inquire, enclosing stamped envelope for reply.

A POOR LILY.—The art of punctuation is one little understood, and for this reason we gave two articles on the subject. It could not be taught in an "answer." See pages 726 and 794, vol. iv., "G.O.P.," where a wide subject has been abridged as much as possible. It is a matter of good breeding to attend to punctuation, as much difficulty is spared to the reader of your letters thereby, and the true sense made clear. Your contribution for the Girls' Convalescent Home was gratefully accepted.

BUSY BEE.—Perhaps the Institution for Nursing Sisters, in Devonshire Square, London, might suit you. Write to the lady principal or superintendent. Otherwise, look through our more recent answers under the above department, and select a hospital for yourself.

MISS FRY.—We insert a notice of your "Reading Union" with pleasure, concerning "Foreign Missions." It is well that the interest of young people should be judiciously enlisted in such work. No subscription fee is required for membership, but two hours' reading, weekly, of magazines or pamphlets, respecting these missions, of whatever society (thoroughly Christian and orthodox, of course), is a condition of such membership. A copy of the rules and list of books recommended will be supplied on application to Miss Fry, 55, Chepstow Place, Bayswater, London, W., Christian Missions Reading Society.

## WORK.

AMY.—The celebrated Miss Linwood, the almost incomparable artist in needlework, died in 1845, on the 2nd of March. But those who saw the wonderful pictures by a daughter of Oliver Wendell Holmes, the American Essayist, which were exhibited in Bond Street two or three years ago, were able to form perhaps as good an idea of what the art of needlework could accomplish. Those of you who neither saw Miss Linwood's nor Miss Holmes's pictures might now see, in the galleries of the Danish Exhibition, South Kensington, some very creditable small works, representing dogs, etc., well worth a close inspection. If you aspire to making needlework an art in the highest form of its great possibilities, you should read "The Art of Needlework," by the Countess of Wilton. The book is rare; but you could obtain it at a circulating library, or see it in the British Museum.

## ART.

MITAINE.—The pen-and-ink sketch you enclose gives evidence that you have never been taught to draw, and would need much instruction and practice to qualify you to teach the very first principles of the art. You are not capable of illustrating for any work or periodical. We regret that we should be obliged to disappoint your hopes.

ALICE.—Write to Miss Trulock, the lady-superintendent of the National Art Training School, South Kensington. Evening classes are held, at the fee of £1 a session, for three evenings weekly; an entrance fee of 10s. is due. The sessions extend over five months each, severally commencing on the 1st of March and 1st of October.

FLORENCE BUSHILL.—Chinese white is made of zinc white finely ground, and made into a cream by adding mucilage of gum tragacanth, grinding with a glass muller; lastly, add ten or twelve drops of thick gum-arabic, and five or six drops of pure glycerine. Grind all well together, and drop into a bottle by means of the palette knife. The tragacanth mucilage is made by putting a small piece, about the size of a large bean, into two ounces of cold

water, letting it remain for a day or two, till the gum swells up and absorbs water. Then beat to a pulp. It is impossible to specify any exact proportions for the Chinese white, but it can be made for a trifling sum in this manner.

MARIA EVELYN.—If you have vol. iv. of this magazine (see pages 401 and 545, the parts for March and June, 1883), you will find articles by Mr. John Staples on "Painting in Oils," and quite as much information as to the technical part of the art. The careful study of the best masters, and of Nature herself, together with persevering practice, must make an artist of you, if you have any real natural talent in this walk of art. The very best teaching could not make a real painter.

CARVER.—There are several manuals of wood-carving which you might order through a bookseller. If you have a school of art near you you would be able to get what you wanted there.

KITTY.—No, we do not know of any such recipe. Everything of the kind is sold as a patented article, we think, and even if you made it, it would be, probably, a failure from lack of means and knowledge on your part.

CHASTE.—Use skim milk and water, in equal parts, lay the pencil drawing in a large dish, and cover it with the mixture, draw it out, and hang the drawing over a chair back till nearly dry.

CARLOS II.—Your description of your crown of Charles II. reign is so slight that we could not say what the value may be. You only mention the obverse; if the reverse has four shields, arranged in the shape of a cross, with date and lettered edge, it is worth from 7s. 6d. to 15s., extra fine from £1 1s. up to £4 4s., all depending on the state of preservation. You would have to take an opinion on it, of course. We suppose the price paid was a misprint, "£355" instead of £35.

IDA.—Frames for pictures can be easily made of plush or velvet, provided you have the rough wood foundation made first. Ida will find a palm leaf fan treated on page 456, May part "G.O.P."

SUSIE.—We regret that we cannot help you with the name of the artist. We think we have seen it called "The Music Lesson."

GLUCK.—The design is traced on the glass or mirror with a lithographic pencil, and then painted in oil colours. The children's hospital in Shadwell, London, E., would be thankful for your scrap-books.

ROSEMARY must mix her water colours with Chinese white; this will render them opaque. If you wish to varnish the design you must first apply two coats of white size, and then white spirit varnish. 2. We regret that we have no space for more stories this year.

## HOUSEKEEPING

M. A. R.—We are informed that the keys of a piano can be improved in colour by wiping them over with benzoline, and exposing them to the sunlight coming through the glass of a window.

MAY SCOTT.—Dried lavender, put up in muslin bags, makes the nicest scent for linen of all kinds; but most chemists sell a mixture for the purpose, which you may use in the same manner, with safety and satisfaction.

MATER.—The use of paraffin, as a means of rapidly cleaning clothes without labour, has recently occupied some attention in the pages of a leading Scotch paper. Half the usual amount of soap is needed, and with little labour the clothes look much cleaner. The method of using it is as follows: For an ordinary-sized copper, half fill it with water, put in half a pound of soap, and add one and a half table-spoonfuls of paraffin. Heat until the soap be dissolved; then put in, without steeping, the linen of the ordinary washing. Boil well for half an hour, then lift out, and rinse through one or two clean waters, and the washing is finished. Flannel and coloured garments, of course, cannot be treated in this way. In America paraffin is very largely used for washing, and always with success. The clothes, when wet, will have a slight odour of paraffin, which, however, disappears wholly when they are dry.

The process of ironing is said to be much more readily performed when the clothes are cleaned by this method.

POSTAL NOTE.—Decanters and water bottles can be cleaned with tea leaves and a brush. Leave the tea leaves to soak in water for an hour or two, or overnight, if the bottles be much discoloured. Soda spoils the colour of glass, and all glass should be washed in cold water, not warm. To clean the inside of metal teapots, the leaves should be taken out at once, and the pot rinsed with boiling water, and wiped quite dry. Once a week it should be scrubbed out with fine salt, the spout cleaned out with a piece of whalebone, and the holes with a small wire.

B. F. C. is thanked for the recipe for "unfermented wine," which we transcribe. Home-made ginger wine.—Procure from a chemist  $\frac{3}{4}$  oz. of tartaric acid, 5 drachms of best essence of ginger, 3 drachms capsicum, and 1 oz. burnt sugar, and place all in a bottle. Dissolve 4 lb. of lump sugar in 5 quarts of boiling water. When nearly cold, add the contents of the bottle (before named) to the latter, and stir often, until cold, then bottle. This will keep for months. We are happy to give you a recipe for "unfermented orange wine." To one quart of orange juice add two of water. As the squeezed oranges still have some acid in them, put the pulp into a pint more of water for every quart of juice which you have previously expressed. Squeeze the pulp again, and add the juice to the rest. Let all stand in a tub all the night, then skim the surface, and add 15 lb. of lump sugar to 20 quarts of the liquid. Pour all into gallon jugs (or casks), leaving the jugs open and the bung holes of casks unstopped, until the sediment has risen to the top. Some persons add a gill of brandy to each gallon, but this is optional. Then bottle, and the wine will improve by age.

## COOKERY.

A. N. S.—The articles on cookery by Phillis Browne were gathered together in the "Girl's Own Cookery Book," price 1s. Write for it to Mr. Tarn, 56, Paternoster Row, E.C.

POLLIE.—Use good clarified dripping to baste your poultry with. Many cooks put a little water in the bottom of the dripping tin, and put the dripping on the meat unmelted, but others melt the dripping in the tin before putting in the meat. Whichever you do, be careful to baste your meat and poultry constantly. You cannot baste too much. 2. What is called "satin merveilleux" makes a pretty dress and wears well; but a really good black silk wears better than anything else. It should have a greenish hue when you look through it.

GRANULES.—1. Hominy is Indian corn shelled from the cob and divested of its skin, then dried for use. There are three sizes. The middle size is the best. It is very nutritious and digestible. In vol. v., "American Cookery," are some recipes for it. The hominy must be soaked in plenty of water over night, then boiled for an hour in the water in which it has soaked, taking care that it cooks gently or it will burn. It is very good for breakfast eaten with butter, melted butter, or with sugar only. What is left may be fried in slices and eaten with bacon for breakfast. It may be mixed with a little milk and made into a pudding, like other milk puddings. 2. Table-napkins and cloths should be marked in the left hand corner under the hem, whether they are done in ink or in embroidery.

A. L.—An extempore apple pudding can be made both nourishing and appetising as follows: Boil 1 lb. of rice, and when hot stir in four table-spoonfuls of stewed apples, adding 2 oz. of butter,  $\frac{3}{4}$  lb. of lump sugar, and a tea-spoonful of powdered cinnamon. Serve hot with cream. This recipe will answer equally well if the apples be substituted by berries of any kind if sufficiently acid; or currants already stewed, and this will prove a nice summer dish as well as a winter one.

A. M.—We can recommend you "The Girl's Own Cookery Book," published at our own office, price only 1s. Write to Mr. Tarn for it.