Milady's Silk Has History

Origin of Silk Culture Dates Back 3600 Years to China Where Secret Kept Long.

THE origin of silk culture dates back to 1703 B. C., its first promoter, Hoang Ti, the third emperor of China, being a contemporary of Joseph, son of Jacob. Desiring his wife, the Empress So-ling-Chi, to contribute to the happiness of his people, he suggested that she examine a singular worm that existed in with a view to testing the practicability large numbers among the mulberry trees, of making use of the curious fiber it produced.

The empress entered eagerly into the plan. She collected the great quantities of the worms, fed them from her own hands, and discovered how to reel the fiber and weave it into webs for the making of garments. For this achievement she was deified by the Chinese after her death.

PROFOUND SECRET KEPT

For nearly 2000 years the wily Chinese kept their method of obtaining this fine fabric a profound secret. They sold the silk to the Persians, who for a thousand years, without knowing how or from what it was made, carried it to the western nations.

Aristotle was the first European to learn the true origin of the wrought silk brought to him from Persia on the return from that country of Alexander's victorious. He described the silkworm as a "horned insect," passing through several transformations, which produces "bomlykia," a name he applied to the silken threads. For fully 500 years after this time, however, the Greeks and Romans were ignorant of the precise origin of silk, since they confounded its production with that of cotton.

It was in Aristotle's time that Pamphile and her associates in the Island of Cos (the modern Zea, in the Agean sea), imported raw silk from Persia, and, unraveling it, split the fine threads into several strands, and had them rewoven into a silken gauze, which, from its transparency, was named "woven wind."

IN JUSTINIAN'S TIME

Up to the middle of the sixth century, A. D., all the raw silk was still being imported from China by way of Persia, so that the emperor, Justinian, having gone to war with Persia, found the medium of his raw silk cut off, in consequence of which the manufacturers of his domain raised a bitter complaint. His foolish legislation added to the distress, and a panic was averted only by the sagacity of the Nestorian monks, who, at the risk of their lives, brought from China the seed of the mulberry tree and knowledge of the Chinese method of rearing the silkworms. Death was the penalty for carrying silkwork eggs out of China, but the monks managed to secrete a quantity of the eggs in the hollow of their pilgrim staffs.

NEW INDUSTRY IN EUROPE

Thus came the introduction of the silk industry to the world outside of the Flowery Kingdom. It spread rapidly over Greece and Syria, but did not become a success in Spain until almost two centuries later, and was slower in reaching Italy and France, there being no record of such an industry in those countries until the middle of the sixteenth and seventeenth centuries, respectively. Manufacturing naturally followed the production of raw silk, but for many centuries the finest and richest silks were woven only for the church, the nobility, and the most wealthy knights.

Silk culture was first introduced into America in 1622, when King James sent silkworm eggs, mulberry trees, and printed instructions to Virginia. The venture was not a success, and nearly a hundred years elapsed before another attempt was made to substitute silk culture for tobacco raising in the colonies. The first silk exported from the new world was sent from Georgia in 1735 and amounted to eight pounds.

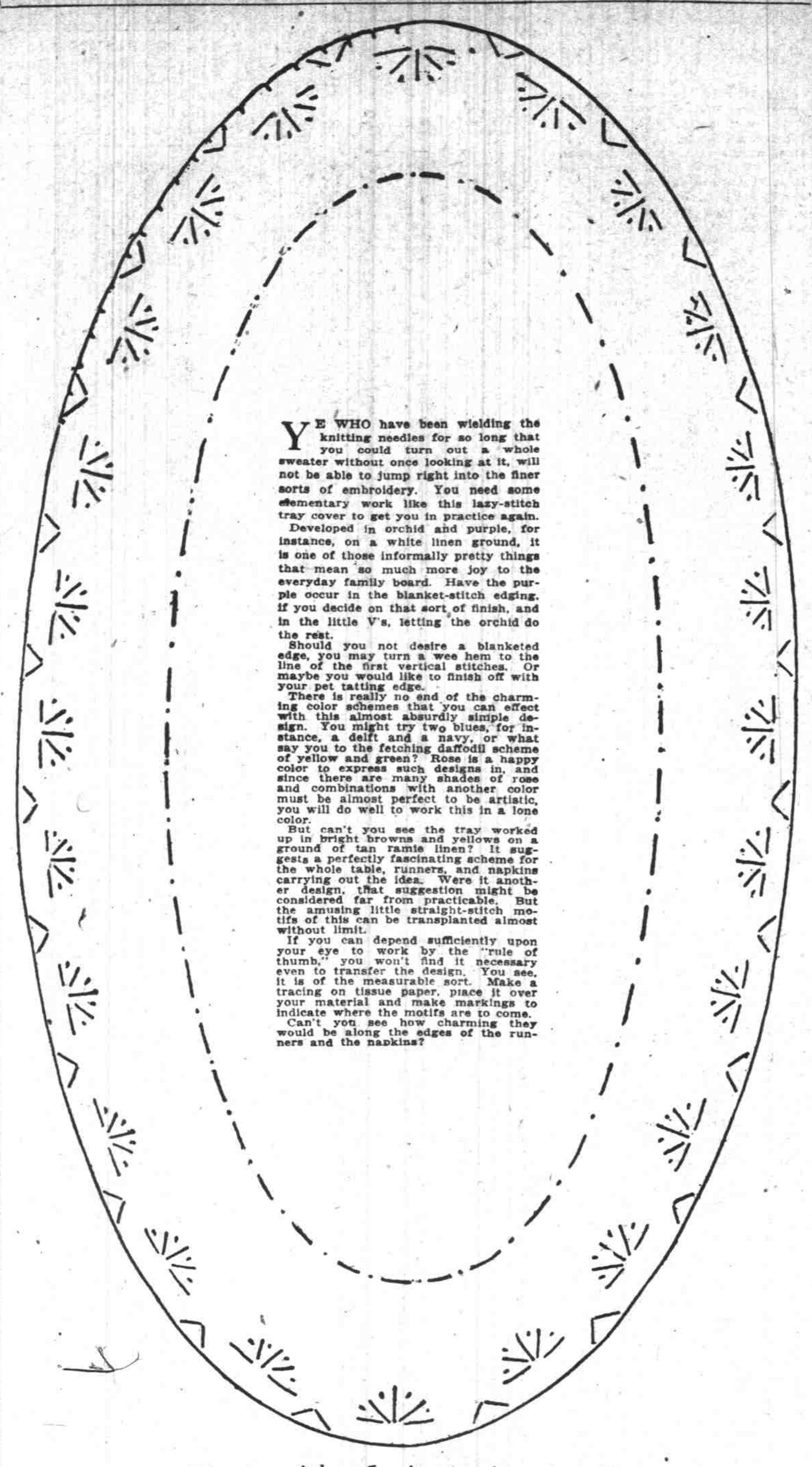
From that time up to 1759 there was a gradual increase of silk exports, the last year reaching 10,000 pounds—in value about $75,000. Thereafter, the industry declined in the south, and the attempt to establish it upon a sound footing made some 10 years later by the northern colonies, was frustrated by the outbreak of the Revolution.

EFFORTS IN NEW ENGLAND

For nearly a hundred years Connecticut made a success of silk culture but through the last 60 years the industry has steadily declined. In 1830, Florence, Mass., took the lead in the silk culture movement, and it was the success attending the venture there that, a few years later, induced the whole surrounding country to invest in mulberry cuttings and silkworm eggs. The excitement increased to fever heat. People paid fabulous prices for mulberry twigs and went into silkworm farming at such a reckless pace that a panic was inevitable.

The crash came in 1839 involving thousands in financial ruin. A severe winter killed most of the mulberry trees, thus giving the industry a blow from which it never rallied.

EMBROIDERED BREAD TRAY COVER



YE WHO have been wielding the knitting needles for so long that you could turn out a whole sweater without once looking at it, will not be able to jump right into the finer sorts of embroidery. You need some elementary work like this lazy-stitch tray cover to get you in practice again.

Developed in orchid and purple, for instance, on a white linen ground, it is one of those informally pretty things that mean so much more joy to the everyday family board. Have the purple occur in the blanket-stitch edging, if you decide on that sort of finish, and in the little V's, letting the orchid do the rest.

Should you not desire a blanketed edge, you may turn a wee hem to the line of the first vertical stitches. Or maybe you would like to finish off with your pet tatting edge.

There is really no end of the charming color schemes that you can effect with this almost absurdly simple design. You might try two blues, for instance, a delft and a navy, or what say you to the fetching daffodil scheme of yellow and green? Rose is a happy color to express such designs in, and since there are many shades of rose and combinations with another color must be almost perfect to be artistic, you will do well to work this in a lone color.

But can't you see the tray worked up in bright browns and yellows on a ground of tan ramie linen? It suggests a perfectly fascinating scheme for the whole table, runners, and napkins carrying out the idea. Were it another design, that suggestion might be considered far from practicable. But the amusing little straight-stitch motifs of this can be transplanted almost without limit.

If you can depend sufficiently upon your eye to work by the "rule of thumb," you won't find it necessary even to transfer the design. You see, it is of the measurable sort. Make a tracing on tissue paper, place it over your material and make markings to indicate where the motifs are to come.

Can't you see how charming they would be along the edges of the runners and the napkins?

These lazy stitches offer charming chance for color

Hints to Milady as to What Well-Dressed Women Wear

MILADY is much concerned with the problem of what she shall wear since fashion's decree has released her from the plain garb in keeping with the spirit of wartime. Many radical changes are shown in the shops and as worn by stylishly gowned women.

Milady is affecting the skirt which is puffed at the hips to stand out like panniers, to replace the full balloon skirt recently so fashionable.

Whatever else is advanced in fashion, it appears quite probable that women will have the circumference of their hips exaggerated after the manner of the Spanish fashions of the early seventeenth century. Maybe Spain is to be widely copied in the new clothes. The black lace mantilla has already appeared as a headdress for fashionable brides, and it is simulated on street hats.

The new hip sashes in colored taffeta, tulle, beaded tissues and satin tie at each side instead of at the back or front. They are finished over each hip with an immense bow or outstanding loops.

MONKEY FUR ON CAPES

Monkey fur continues to be in fashion, and even the dressmakers who opposed it show a slight affection for it now. It is especially used on summer capes, which have entirely taken the place of top coats.

Curious, fantastic arrangements of ostrich feathers continue to be the indoor sport of milliners and dressmakers.

No longer are these feathers applied to the gown in bunches or as fringe. Dressmakers with imagination make flowers of ostrich feathers, or use them to outline embroidery. They are also used as collars in some curious design, they are built into tassels, and they make entire sleeves, short though they are.

LEMON YELLOW IN DEMAND

Lemon yellow continues to be an acceptable color. It was launched by the French in February and by the Americans in April, and now the public finds in it a color that is cool to wear and cool to see. Apple green is its rival.

As for the short sleeve, it seems to have won out in frocks for the country.

It is seen here and there at the smart restaurants, worn by women who like to keep up with a new thing rather than be conservative. Long gloves are rarely worn with it. The frock is usually covered by a cape in the open, and the arms and hands are bare in the house.

CREPE DE CHINE POPULAR

Crepe de chine continues to be one of the most sought after fabrics for summer frocks. It is used in all colors and for all occasions.

In dark blue it forms the basis of a practical wardrobe. It is rarely used in black. In white and in the pastel shades it serves for evening, and especially afternoon frocks for young girls.

If women adopt the short skirts that are infiltrating into the fashions from France, they will give up the low heeled shoes that have been fashionable during the war. There will be a great demand for high heeled slippers and extremely fanciful pumps.

The fitted bodice, which is brought down well below the waist line, comes into fashion at a time when the corsetless figure is adopted.

FASHION'S VICTIM

By S. E. Kiser

With glances that are tender
I appraise her when we meet;
She is youthful still and slender
And her look is sad and sweet.
If her name is Ann or Amy
Or Patricia, be it so;
But I hope she doesn't blame me
For the sympathy I show.
Oh, my soul is filled with pity
For the slender little, pretty
Little armful of a maid
Who must wind a wad of furs
'Round that dainty throat of hers,
When I long to shed my collar and it's
90 in the shade.

For a week we have been meeting,
Meeting daily, she and I;
She has given me no greeting,
Save a passing little sigh.
Ah, I heard it—heard it clearly—
One sad little sigh, no more!
Was it due to love, or merely
Caused by something that she wore?—
Something meant to lend a splendor
To the tender little, slender
Little armful of a maid,
Who must wear a wad of furs
'Round that lovely throat of hers
When there's not a zephyr stirring,
and it's 90 in the shade!

Observe Flowers Closely

Scheme of Fertilization Makes Interesting Study; Now Is Time to Follow It to Best Advantage.

By Sheba Childs Hargreaves
Portland Garden Authority

BOTANY is a subject which the gardener who is in earnest would do well to study, for when he understands the fundamentals of this subject he will be able to make direct application of them to his own plants. The understanding of the simple principles of plant construction will save many failures in the growing of both flowers and vegetables.

The modern tendency is to simplify science so that it may become the property of all. The botanist of today spends more time in studying the habits of the every-day plants than he does on perilous expeditions into the interior of unknown countries after strange specimens which he may classify. The dreary list of Greek and Latin labels which formerly made botany, as taught in the colleges, a dry-as-dust subject, has given way to a more intimate study of the living, growing plants as they appear in fields and woods, so that modern botany is a subject full of the most intense interest to the lovers of the outdoors, and, shorn of all technical terms, it is one of the simplest.

A TIMELY STUDY

At this time of the year, when plants are in flower, pollination or the means by which pollen is transferred from one flower to another, or kept away, as the case may be, would naturally be of intense interest to the flower-lover or vegetable-raiser.

The purpose of the bright colors and graceful outlines of flowers in the economy of plants is to produce seed that the species may continue. The stamens are the pollen-bearing organs of the flower, while the pistils are the receiving agents through which the minute particles of pollen are distributed to the seeds, so that fertilization may take place and the seed may produce after its own kind.

The methods which different flowers have of distributing pollen is most wonderful. It would seem that they have intelligence, so ingenuous are the devices by which they further their aims. In fact, some botanical students, who might be called the advance guard of the science, claim that there are many evidences of a rudimentary intelligence in plant life. This claim, however, is by no means an established fact; but, knowing and loving the plants, I rather like to believe that they are intelligent, and I sincerely hope that some day science will establish this supposition as a fact.

TWO CLASSES OF FLOWERS

All flowers are divided into two great classes. Those which have both stamens and pistils in the same flower are perfect flowers. The imperfect flowers are those having either stamens or pistils in one flower. The imperfect flowers are called staminate or pistillate flowers, according to the organ which they bear.

The early botanists supposed that perfect flowers were naturally self-fertilizing, but long series of experiments established the fact that while this was possible, the number and vitality of the seeds borne were increased by cross-fertilization or by the scattering of the pollen from flower to flower. This cross-pollenization, when directed by scientific men, has been the means of wonderful new varieties of flowers and vegetables; in fact, it is due to cross-fertilization and the selection of the best plant specimens upon which to work that have enabled Luther Burbank to develop his marvels.

Pollen is designed to be scattered by the wind, by insects and in the case of some aquatic plants to be carried from flower to flower on the surface of the water. Wind-carried pollen is dry and is always produced in great quantities. It is a noticeable fact that the flowers of wind-pollinated plants are nearly always green and inconspicuous. Corn is an example of this class of plant. The tassels are the stamens and the silks bear the pollen of each grain on the ear. In walking through a field of corn this yellow dust will be noticed lying on the stalks in quantities. Knowing this characteristic of corn, the wise gardener blocks his corn instead of planting it in long rows, for fertilization will, of course, be better when chances of pollination are good.

SERVICES OF INSECTS

Vivid colored flowers are generally insect pollinated. The colors and shapes are designed especially to attract the insect, which scatters the pollen best. It will be noticed that many flowers have rays of darker colors leading to the center. These are the nectar guides, or little paths to show the bee or other insect just where the nectar is located. By the unknowing this nectar is thought to be honey, but honey is the finished product made by bees digesting nectar and then storing it in the comb in their hives. Different insects feed on nectar, and pollen is also nourishing, so the flower produces quantities of rather sticky pollen, which adheres to the hairy body of the bee and is thus carried from flower to flower. In order to prevent self-pollination, the stamens of some flowers mature at a different time from the pistils.

Bees are depended upon for pollen carriers by many flowers, especially for fruit blooms, and it is for this reason that bees are so necessary to insure a full fruit crop. Many orchardists keep a few hives especially for pollenizing, though beekeeping is in itself a profitable business when carried on in connection with fruit growing. In seasons when rain falls during the blooming season, it will be noticed that the fruit crop is light, for the pollen does not scatter well, and then, too, bees do not leave the hive in wet weather.

Other insects also carry pollen, moths and butterflies, as well as many of the beetles. While such flowers as foxglove, nasturtium and trumpet vine are fertilized by the humming bird and large moths.

PART ODOR PLAYS

Odors also play a large part in guiding insects to flowers. It is believed that insects see only about six feet, but the organs of smell are very active. Some plants bear flowers which are carrion scented, and so draw flies in large numbers, who act as pollenizing agents. This type of flowers are generally of some inconspicuous color such as a dull brown. The Mission Bell, a common wild flower, is a good example of the carrion scented flower. There are various ill smelling weeds—the tar weed and dog fennel—which attract flies for pollenizing purposes.

On many of the insect fertilizing flowers there are special devices for keeping away thieving visitors, such as ants and other small insects, which are smooth bodied and so do not carry away pollen but merely eat it. Some times there is a sticky substance secreted by the flower stem which prevents the marauder reaching the flower; in other cases hairs, sticky or not, around the base of the flower, accomplish the same purpose. The throats of some blooms are effectively closed against small insects by hairs or by barriers formed by sort of modified petals. Nasturtiums, columbines and larkspurs are common examples of this type. The nectar is carried in a spur which is accessible only to such insects as have a long tongue or sucking tube.

It will be noticed in walks through the woods and fields, as well as in the garden, that the flowers that prevail in the largest quantities are the many petaled types, which are known as regular flowers—all petals the same size and shape. On examination it will be seen that these flowers have large amounts of pollen and no special devices for preventing or encouraging particular visitors. They are open to all comers, and the pollen is even scattered by the wind to some extent. Many of the persistent troublesome weeds owe their rapid increase to the fact that they produce this regular type of flowers.

The irregular flowers, while having special devices to prevent the theft of pollen and nectar, also have little conveniences for encouraging the insects which they wish to carry the pollen. In such blooms as the sage, snap dragon and other lipped flowers, the lower petal forms a landing stage for the bee. The violets have hairs on the petals at the sides so that the insect may cling to them while the nectar is being gathered. In some forms the stamens afford a convenient ladder, and these are only a few of the commonest devices for attracting insects, others may be noticed on garden flowers if the student will take time to watch the bees at work.

In order to make sure that the insect visiting a flower is well dusted with pollen many flowers are able to make quick jerking movements when approached by the insect. It would seem that if a movement is possible there must be some governing intelligence by which it is directed. The stamens of the laurel, according to a standard botany, have a way of throwing masses of pollen against the body of the bee by a quick jerk of the stamens; while the barberry presses its stamens against the insect and thus covers her with pollen. The fact that plants have any power of motion may be doubted by persons who have studied them, but if the incredulous will sit down by a vine for an hour the fact may be verified. The vine hunting for support moves in a slow spiral until it finds the string to take hold of. The movement of stamens in a flower would be much harder to prove to the satisfaction of the amateur.

MELONS AND CUCUMBERS

Melons and cucumbers have a different scheme for fertilizing. The vine bears two kinds of flowers which to outward appearances are the same except that one flower bears the small fruit while the other drops off when the pollen has been scattered; these pistillate and staminate flowers should be distinguished by the gardener, for the pruning he gives his vines depends somewhat upon the position of the fruit bearing flowers.

Still another class of plants to make assurance doubly sure, bear flowers which are cross fertilized, while near the roots they produce large quantities of seed bearing flowers which are self fertilizing, in fact they do not open at all, but look like small buds. The violet is one of the most common example of the type. The flowers that bloomed in the early spring were fitted for cross fertilization, but now that the blooming season is over, if the mass of leaves is separated the small bud-like flowers with no petals will be readily seen and on opening the flowers, seeds in different stages of development will be found. This explains in a great measure the rapidity with which violet plants increase and fill a bed in a short time although set thinly.

Only a few rather isolated facts can be mentioned in a short article, but standard works on botany contain much that is of intense interest to the flower lover, and by using the index to terms to be found in the back of the book, the study is worth while in connection with the observation of growing flowers, even if botany is not to be taken up as a serious study.

SUGGESTED PLANT STUDIES

1—Flower of larkspur. 2—Envelopes of a larkspur. There are five petals, the upper one being spurred. 3—Common blue violet. The corolla is spurred. Late in the season cleistogamous flowers often appear on the surface of the ground. 4—Catkins of a willow. The staminate and pistillate are on different plants.

WAR MATERIAL NOW OFFERED FOR GOWNS

Dress Made of special silk purchased by government for wrapping cartridge bags.

Washington, July 12.—The ordnance bureau of the war department is offering to the dress goods trade 18,000,000 yards of material which will be a complete novelty to milady. It is a special silk made for wrapping cartridge bags, of a quality which should retail for $2 or $3 a yard. To prove that the cloth is suitable for dress goods, Colonel E. E. Garrison had a dress made and fitted to his secretary. Here it is. Bids will be opened July 10, and it will be determined then how the product will be marketed.

War on Cancer Revived

Columbia University Laboratories Renew Fight Against Scourge —Statistics Are Alarming.

NEW YORK.—Cancer research in America is proceeding as in pre-war days, it is said at the Crocker laboratories of Columbia university. Mice, the supply of which had practically been absorbed by the government for use in trenches or submarines and in camps for the purpose of detecting gas, are again being bred in vast numbers for cancer laboratories. At Columbia there are now 5000 tumor-bearing mice. During the war the number had fallen to 1000. Before the war it had reached 15,000. The animals are being bred in New York and Philadelphia.

The war has touched the cancer problem in a strange way, according to Dr. Francis Carter Wood, director of the George Crocker special research fund at Columbia. In England and Wales the cancer death rate has shown enormous increase since the war began and Dr. Wood, after an exhaustive study of the latest statistics available from the office of the registrar-general of Great Britain, concludes that the increase is due to the fact that "that portion of the male population below the age of 45 had been largely removed to France and Belgium and the old-age groups therefore predominated in wartime."

In this country the same phenomenon will be noticed during the next year or two, Dr. Wood said. This condition, he pointed out, must, however, be considered by age groups rather than for the population as a whole, and if this is done no real change will be found. Similar distortion of cancer death rate, he said, has been noticed in the New England states for some years.

Dr. Wood says that for the first time since the laboratory of the Crocker fund was opened no cancer "cure" was sent in during the last academic year for test. "Apparently," he adds, "the quacks during wartime turned their attention in other directions."