



**Pretty Pongee Coloring.**  
The shantung and pongee silks have appeared in champagne, ciel blue, rosea, green, pale pink and other delicate or unusual shades, and are being made up into effective shirtwaist costumes.

One of the delicate grayish blue pongees rejoices in the name of Parisal. A bright blue is called Madonna and a rather bright yellow is termed Yeldo.

The rough, unevenly woven pongee is the genuine eastern product, and is the most fashionable, as it is also the most lasting. These silks come as wide as thirty-eight inches, and, while more expensive than the other varieties, are really cheaper, as they wear forever and clean and wash beautifully.

There are any number of pongees, and of course the dark colors—cardinal, navy blue—are shown and used in quantities.

**Return to Olden Styles.**  
Early summer styles indicate a return to the charming old fantasies of our great grandmothers, brought to up-to-date requirements by the modern loom.

These are flowered organdies, old-time grenadines in plaids or besprinkled with sprigs of flowers, veilings of every variety, mounting in the scale from simple voiles to crepe voiles and voile chiffons.

Colors can only be described as indescribable. Every possible gradation of shade and light is extracted from a primary color. In fact, the new school is a wonderful school in color training. One no longer hears of brilliant orange as a touch of color. It is the fashion to deal in tawny yellow, dregs of champagne, banana tints and almond leaf greens.

**To Clean White Velvet.**  
It is almost impossible to clean white velvet in a perfectly satisfactory manner. However, it may be greatly refreshed by an application of chloroform. First brush and beat the velvet free of all dust. Pin the velvet smoothly on an ironing board, or it may be stretched in an embroidery hoop, and have plenty of clean white cloths at hand. Dip a cloth in chloroform, rub lightly over the spot until it disappears, then, with a clean cloth, rub over the entire surface of the velvet to remove all soil on the nap. Do the work very rapidly and finish by rubbing with another clean white cloth. Haste is absolutely essential because of the volatile nature of the cleaning fluid and also to avoid a stain.

**Waist With Pointed Yoke Collar.**  
Nothing could be prettier for afternoon wear than this dainty waist of sheer white muslin combined with a yoke collar made of lace, embroidered insertion, and frills of fine embroidery. Its deep, pointed yoke gives the necessary droop to the shoulders and the gathered portion below is softly full and blouses over the crushed belt most becomingly. The model is unlined and so become washable, but the many thin silk and wool fabrics of the season are equally well adapted to the style and can be made over the fitted foundation and with frills of lace in place of needwork, while the yoke can be lace or any fancy material preferred, and can be made quite transparent or lined with chiffon whenever such effect is desired.



The waist consists of the lining, front, backs and yoke collar with full sleeves, and is closed invisibly at the center back. The soft belt is cut bias and is gathered to form tucked shirrings at the ends.

The quantity of material required for the medium size is  $3\frac{1}{2}$  yards 21 inches wide,  $\frac{3}{4}$  yard 27 inches wide, or  $1\frac{1}{2}$  yards 44 inches wide, with 9 yards of insertion,  $3\frac{1}{2}$  yards of wide embroidery and 2 yards of narrow to make as illustrated.

**Child's Pinafore Frock.**  
Frocks made in pinafore style and worn over gumples with full sleeves are exceedingly charming and attractive and so eminently simple that they suit the small folk to perfection. This one is made of sheer nainsook with trimming of embroidery, but all

the white materials used for purposes of the sort and pretty colored ginghams, chambrays and the like are equally suitable and the latter are even preferable for the hours of play. To make the dress for a child of 4



Design by May Manton. Years of age will be required  $2\frac{1}{2}$  yards 27 or 2 yards 36 inches wide with  $5\frac{1}{4}$  yards of embroidery.

**Sicilienne Promenade Costume.**  
All of the sheer and lightweight fabrics are highly favored of fashion, and none more so than the siciliennes, with their silky surface and dust-repelling qualities. A safe-au-lait tint in sicilienne has much shirring and depends upon fancy gold braids for decoration. The blouse coat has a chasuble yoke defined with braids, the shoulder being extended down over the arm, and shirrings appear on each side of the chasuble to afford the fullness which is pleated into the deep feathered girdle. The skirt is shirred around the hips, and a shirred flounce is applied beneath a band of fancy gold braid. The shirring is executed with the oscillating stitch of the sewing machine with all the effect of hand work. A velvetene binding of the same tint matching the sicilienne finishes the hem.

**Fruits Out of Season.**  
The wife of a wealthy fruitgrower surprised her friends during the holidays by serving watermelons, muskmelons, plums and grapes as fresh as when they were gathered. Asked to tell the secret, she replied: "It is the simplest thing in the world; anyone can preserve fresh fruits in the same way. The melons I first dip in a wax preparation and coat the stems with sealing wax. After this I coat them with a thick coat of shellac and bury them in a box of sawdust to keep them from rubbing together and from freezing. The plums are coated in the wax only, but the plums and other fruits are coated with the wax and then with the shellac. All are carefully packed in sawdust."

**The Smartest of Shirtwaist Hats.**  
A broad satin straw braid in a champagne tint has tiny gold braids interwoven to form a plaid pattern in this exceedingly smart hat destined for shirtwaist and other informal wear. The crown is low and broad and the brim is bent into fascinating curves, eminently becoming, above the face. The large rosette of black velvet ribbon at the side is centered with a huge gold cabochon, decorated with cut steel work, and this catches the light. A long strand of the velvet ribbon is threaded through the brim, to fall in loops and ends on the hair in the back.

**Case for White Collars.**  
A dainty device for keeping the twentieth century girl's white stocks and starched collars immaculate when not encircling her fair throat is made of a round basket. Line with silk of delicate hue, with an interlining of wadding, sprinkled with sachet powder. A circular piece of pasteboard covered and wadded serves for a lid and also as a convenient resting place for the fancy pins worn at the front and back of the stock collars.

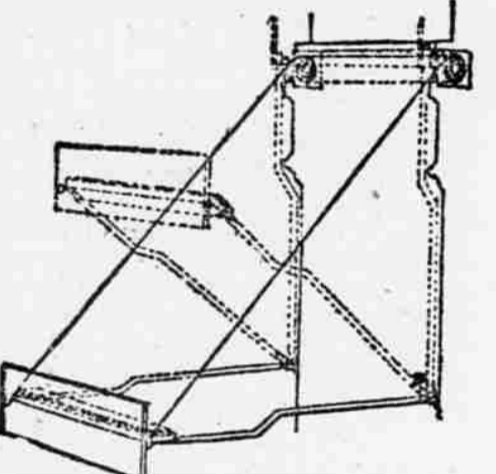
**Women and Their Shoes.**  
Women are paying more and more attention to the shoes worn with all costumes. Fashionable women are wearing bronze shoes with their golden-brown costumes, grey suede ties and pumps with their grey costumes, oyster-colored suede with a costume of that shade, and so through the endless gamut of fashionable colors.

**Light Colored Evening Wraps.**  
To be fashionable evening wraps must be light, not in weight, but in color. Almost every material, from lace to "marabout ropes," will serve for their making, but they must never be black or red or brown, and even dark gray is a little under the ban.

## SCIENCE and INVENTION

An Englishman's Invention.

What can make a building look more unsightly than a lot of faded, torn and ragged awnings, flapping in the wind and adjusted at every angle from vertical to horizontal? Those half or wholly raised form pockets for the lodgment of snow or rain, with which to deluge some unsuspecting passerby the next time the shade is lowered, and even when folded as closely as possible against the window frame they present a rumpled and unpleasant appearance. Of course, while the awnings are new, they add much to the appearance of the building during the few hours they are in actual use, but they cannot be maintained in that position, as the occupants of the rooms cannot do without the light the shades prevent from entering. It has taken an English inventor to supply an improvement over the old form of awning, as shown in the illustration. Instead of attaching the upper edge of the awning to the window casing by tacks or otherwise, this awning is mounted on a spring roller, which lies back of the face board of the frame in a horizontal recess or pocket formed for the purpose. It will be noticed that the face board of the pocket is secured to the outer end of the awning and to the swinging rods which maintain the awning at an angle with the window frame. When the awning is in use as a protection from the sun's rays, the face board is lowered with it, and the canvas unrolls from the roller in



Rolls into the Window Casing.

the pocket; but upon returning the awning to its pocket, the facing follows and closes the opening in such a manner as to completely hide the shade from view. The improved appearance of a building thus equipped is at once obvious.

The inventor is Stephen Prebble of Brixton, England.

**The Power of Science.**  
In the Popular Science Monthly President Jordan of Stanford university says: "In mechanics we know that the force of a moving body is not measured by the substance. Its momentum or effective power is found in its weight multiplied by its speed. This illustration has been used in praise of American science. The power of science lies not in individual erudition. It lies in its striking power. American science is dynamic; it is always under way. In every branch of science the best American workers have been those most strenuous in their personal efforts, most eager to make their own work useful to the world at large. In almost every branch of utilitarian science America already stands in the lead. This fact England has already recognized with dignified dismay. We hear much of it now; we shall hear more of it still later, for quite as remarkable as the growth of American science is the advance of American schools. Whenever I visit a department of applied science in America I see that it has doubled its power, its staff and its equipments since the time of my last visit. My visits are not very frequent, perhaps once in five or ten years, let us say, but what will be the end of it? To double once in fifty years is a rare thing in the universities of the old world, but even that in a few centuries would accomplish wonders."

**Height of Waves.**  
It has been decided that the average height of all the waves running in a gale in open sea are about twenty feet. But the height of individual waves varies considerably. Vaughan Cornish reports to the Royal Geographical society: "During a strong gale in the north Atlantic, with a heavy sea of more than ordinary regularity, I have observed in the course of a morning numerous waves from thirty feet up to a measured height of not less than forty feet, when the average of all the waves was perhaps twenty-five feet. It is, I think, clear that in any statement we may make as to the size of the waves in a gale at sea, we ought not to neglect the mention of the larger waves which occur at fairly frequent intervals. These, which I term the ordinary maximum waves, are, I think, what seamen really refer to when they state the size of the waves met with during a storm at sea. About forty feet is a common estimate of the height of the larger waves in a severe gale in the north Atlantic, and this estimate is not really incompatible with the recorded average of little more than twenty feet."

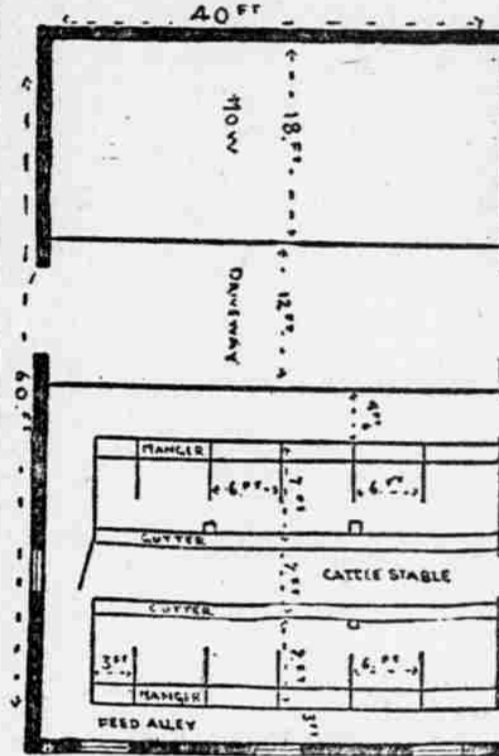
**Bridge Over the Zambesi.**  
A huge one-span arch steel bridge which is to carry the Cape to Cairo railroad across the waters of the Zambesi river just below the Victoria falls, will shortly be swung into position. This bridge will be the highest in the world, with a main span of 500 feet. The materials used in the construction of the bridge are to be transported from one bank to the other across the gorge by an electric cableway.

## PLAN FOR WOODEN BARN.

Mow, Driveway and Cow Stalls All on The Same Floor.  
W. H. B.—Please publish particulars of a barn 40x60 feet, with cow stalls on the same floor as the mow and driveway. I have plenty of tamarack, elm and pines and shall build entirely of wood.

The plan shown provides an 18-foot mow, a driveway of 12 feet and two bents of 15 feet each, in all 60 feet. The 15-foot bent comes directly over the passage behind the cattle. In order to avoid placing posts in its passage way, they are placed on the side of each gutter opposite each other, and a 12x12 in timber, spans from one to the other and the sill rests on it. The dimensions of the stable and stalls are given in the plan. The 18-foot mow can be converted into a horse stable and granary, if desired.

If you have plenty of timber on your farm, why not frame your posts



Ground Floor Plan of Barn.

24 or 26 feet long and make a basement of eight feet under the barn? This will give you a more handy barn, with more room. All the extra cost would be the extra length of posts, weather boards, girts and floor, and the same roof answers for both. To have the stables warm, there should be either a stone or concrete wall one foot above ground.

### Oats as a Cover Crop.

S. W. S.—I wish to sow oats in my orchard following a hoed crop. Would such a crop be injurious to young trees?

I do not think that the oat plant makes an ideal orchard cover crop. Nevertheless, it is very much better than no cover crop. The fact that you are to grow a hoed crop in your orchard during the fore part of the season increases the possibility of injury from the using of oats in the latter part. If you can get a good catch of crimson clover and can sow this between the rows of your hoed crop, I should use it in preference to oats. If this is not feasible, then sow oats and peas, but I would take care to use a fertilizer with the spring crop. While it is true that the oat crop will not be harvested, yet the cereals draw so heavily on the moisture of the soil that, should the season be dry, it might prove a dangerous competitor for the young fruit trees. This is a system of double cropping and should be conducted with caution.—J. C.

### Alfalfa With Timothy.

R. A.—In seeding down a piece of land for hay how would it answer to add a little alfalfa to the timothy and red clover mixture?

Alfalfa is not well suited to conditions and treatment suitable for timothy and red clover. By the time alfalfa is ready to cut for hay, timothy and red clover are not sufficiently advanced for a full yield, and if the alfalfa is allowed to stand until the other crops are ready for cutting the alfalfa stalks will have become tough, woody and indigestible and will have lost many of their leaves which are the best part of the fodder. Again, alfalfa should be cut three or four times in a year, while timothy and red clover will produce only two crops at most. Some farmers mix in a little alfalfa seed with permanent pasture mixtures, but for hay this plan does not go well with red clover and timothy.

### Potato Scab.

A. S.—What will prevent scab on potatoes?

There are two more or less standard remedies for the prevention of potato scab: (1) Soak uncut seed potatoes in a solution of one ounce of corrosive sublimate in eight gallons of water; (2) soak cut or uncut seed potatoes in a solution of one pound of formalin in fifteen gallons of water. These solutions are about equally effective, and one's choice will depend upon the ease with which they can be procured. Formalin has the advantage of not being violent poison like the corrosive sublimate.

### Plant Lice on Oxalis.

W. J. B.—An oxalis is infested with small, green insects; please tell me what to do for it.

Your oxalis is infested with aphid or plant lice. These may be destroyed by sprinkling the plant with tobacco dust or by fumigating the plant with tobacco smoke. If the insects are not very numerous you may wash them off, use soap suds first and then wash with clear water. Oxalis grows very rapidly and it might be well for you to cut off all infested leaves and stems, allowing the plant to make a new, clear growth.



## AGRICULTURE

### Summer-Made Manure.

It used to be the custom to allow the manure pile to increase in size for half a year before using it on the fields. It was supposed that what it lost in volume it made up in quality and that the little well-rotted manure was worth more than the greater volume would have been if applied fresh. Not only was the winter manure kept till spring, but the manure that was made nightly in the barnyard was carefully piled each morning and a new pile allowed to grow till fall, and sometimes this pile was incorporated with the new pile that began to be made when the cows were taken out of the pastures and stabled for winter. But we have learned better now. We know that sun and air are constantly warring against the accumulated fertility and that the sooner it is brought under cover of the soil the better. The loss is especially large with the manure that accumulates in the barnyard in the summer, for the reason that the temperature is so high that all chemical changes are hastened and the moisture escaping helps to carry off the fertility, especially such as can change into gases. So the summer-made manure should be carted to the fields as soon as possible, at least once a week, unless there is a covered place that will protect it from both rain and very much air. In the barnyard if manure is to be kept in summer for any length of time it would pay to have a receptacle built up with planks on each side and which may be increased in height as the manure increases. In this way the air can get at it only on the top, and the fertility in the lower portion will be preserved.

Certainly this is a better arrangement than having an open pile with all sides exposed to the currents of air. The fertility locked up in this manure is worth money, and it should be husbanded as carefully as money would be.

### Account With the Fields.

There are numerous account books especially arranged for keeping account of the cost and production of the various parts of the farm. They cost but little and will be found of value to the farmer provided he can make up his mind to use them and keep his mind made up to that effect. The greatest trouble with trying to keep account with each field is that the farmer neglects the items of expense and receipts, after a short time. In great and small business establishments particular persons are selected to have the matter of bookkeeping in hand. It is found quite impossible for the man that does the buying and selling or even for the general manager to keep the books. It is there made the work of one particular person or set of persons. This will be found to be also the best way on the farm. If there is a bright boy or girl that is interested in mathematics the farm accounts are likely to be kept. Otherwise they are about sure to be neglected. It is easy enough to advise the farmer to keep account of everything he buys and sells. It is quite another thing to point out to him any practical method of doing so, where he himself has to keep all the items of receipts and disbursements. Yet the farmer needs to know these things as certainly as the city merchant needs to know them. If the farmer himself has to keep his own accounts the only practical way for him to be carry always in his pocket a small blank book and put down all the items of sale and purchase as soon as they occur. This book can be later "written up" into a larger one. It pays to keep an account with the fields.

### High-Grade Fertilizers Best.

The wise farmer will buy only high-grade fertilizers and will not be caught by the cry of cheapness. If one brand of a certain kind of fertilizer sells for half what another brand sells for it is almost certain that it contains less than half of the fertilizing elements to be found in the other. The manufacturers would as soon sell the high-grade as the low-grade, but are compelled to put a cheap brand on the market to hold their trade against competition. There are a great many people in every walk of life that are caught by the idea of cheapness. They seldom look into the merits of an article. They set it down as truth that the man that is charging the high price is trying to swindle them, and that the man that sells the cheap article is the honest and friendly fellow. If people will persist in looking at things in this way, they must expect to get a bad bargain in almost every case. Especially is this so with fertilizers, which have to pay the cost of transporting and of handling. The useless material that is put in to cheapen the whole product costs the farmer something, though it is of no value to his land. It costs something to mix it with the high-grade material, and it costs, as we have said, the transportation charges. The high-priced goods are generally the cheaper goods. When a farmer buys fertilizers he should pay no attention at all to the cost per ton, but should figure out how many pounds of phosphoric acid, potash and nitrogen he is getting. Then he should get as little waste material with it as possible, that he may save on the carrying charges.

## HORTICULTURE

### Mark Grafting Wood.

Why will farmers keep worthless apple trees on their farms when it is perfectly easy to have all good. In an orchard of a hundred trees of mixed varieties, some will be very good and some will be very poor. Yet we have seen such orchards stand and for twenty years bear the same old kinds of fruit with which they started. The trees that bore only cider apples at first continued to bear cider apples. Why do not farmers often graft their best varieties of fruit onto the trees bearing the poorer varieties? Is it because they do not think about it or because they never get around to doing what they know should be done? By grafting we can in a few years have all the trees in an orchard bearing good fruit. During the summer months is the time to mark grafting wood, for it is altogether probable that the quality of the fruit on different branches of trees varies and that the fruitful bough, if made up into grafts, will give better returns in fruit than the unfruitful bough. This is the claim of some that have made a study of the subject, though it must be acknowledged that no one has as yet probed very deeply into the matter. Some of the varieties, like the Gano, have been propagated by merely selecting certain boughs that bore apples of a certain color and form. It would therefore be well to mark all wood that is to be used for grafting next year so that the orchardist may be sure to have his scions from wood that has the habit of fruit bearing. In this way some of the worthless fruit trees that are now taking up room without returning any rent for it will become valuable.

### Silkworm Culture.

The Department of Agriculture at Washington, D. C., is investigating the possibilities of silkworm culture in the United States. It is hoped that it may in time be developed to such an extent as to prove of benefit to those members of families whose time is not altogether occupied in other ways, and also to other persons in a small way as a side issue. To persons wishing to experiment, and who can furnish proper food for the worms, the Department is distributing free of charge a small quantity of silkworm eggs and also a manual of instructions. The proper food for silkworms consists of leaves from the different varieties of white mulberry tree and the Osage orange. The paper mulberry (with the fuzzy leaves) is not suitable, nor is the common red mulberry. As the season is now open, applications for the eggs should be made at once, and must be accompanied by a statement as to the number and kind of mulberry trees or the amount of Osage orange which the applicant possesses; otherwise the eggs will not be sent. If the variety of mulberry is not known to the applicant, a sample of large leaves should be sent to the Department. The Department of Agriculture buys the cocoons which the worms spin, paying for them (after they have been dried (75 cents to \$1 a pound, according to their quality. The work will prove an interesting pastime for women and children who can devote to it odd minutes during the day.

### Transplanting Trees and Shrubs at Night.

From Paris comes a report that the gardeners and florists there follow the practice of transplanting at night trees that are in full leaf and have to be transplanted in the spring or summer. It is claimed that the trees do not wilt when transplanted at that time. This may be possible, but we still believe that the time to transplant trees and shrubs is when they are dormant. In hot weather it might do to transplant garden truck, in the night. We know that in wet weather tomatoes and other transplantable things do better if set out at that time than they do in a time of drought. We would like to have our readers report to us the result of any experiments carried on along that line. Of course a tree in full leaf is evaporating a great deal of water during the day and this process is quite small at night, even if it is not checked altogether. The idea of transplanting at night is, however, a new one, and the practice is worth investigating.

### Preparing for an Orchard.

Speaking of the best soil for an apple orchard, L. A. Goodman said: In the preparation of the land and the distance of planting, we must be directed by the climate, the condition of the soil and the surrounding circumstances. I believe the virgin timber soil to be the best in every way. It has proven such in all my experiences. Cutting this timber in August and September, burning up all the brush in October and November, plowing up the land in December and January, and cross-plowing again in March and April, have been the best courses we have ever pursued. It pays to prepare well the land where the trees are to be planted, especially where the trees are to stand, for not for many a year, never during the life of that orchard, can that part be plowed again. Prepare well the land, therefore, before planting.

There are predictions that this year again the growers of fruit will have trouble in supplying themselves with barrels in sufficient number to enable them to market the crop at the time it should be disposed of.