

# SCIENCE & PROGRESS

## The Cotton Plant.

Last year the value of our cotton crop was over \$248,000,000. The United States is the greatest cotton producing country in the world. Its staple is not only the most abundant, but a portion of it is the finest grown anywhere. Our producing capacities in this direction are so great that Texas alone, on a very small portion of her area, can grow each year the cotton crop of the world.

The botanical name of the plant itself is *Gossypium*. It is a wonder that the manufacturers of the many varieties of fancy cotton cloths have not captured that name for some of their fabrics. The plant belongs to the hollyhock and hibiscus tribe.



COTTON PLANT.

The best cotton is that produced upon the islands and a portion of the mainland of Georgia, South Carolina and Florida. It has a long, silky fiber and a yellow flower. The seeds are very small on the sea islands and the seed very long. But if you take the same seeds away from the sea islands and plant them inland they will produce a cotton that is short woolled and hairy, and the seeds that grow in turn will be large and hard to detach from the cotton. Climate and soil modify the plant greatly.

Cotton flowers are either yellow or purple, according to the variety. When they fall off they leave a three or five celled pod which contains the seeds wrapped up in the cotton. When the pod bursts the cotton flies out in a great fluffy mass. The wool is usually white but sometimes yellowish. It is from a variety of this latter color that the old fashioned fabric called nankin is produced.

Cotton is in reality a vegetable wool. Its name in German is *baumwoll*, which means tree wool. There is a tree-like cotton plant which is different from the kinds mentioned. It bears a red flower and has not been much cultivated.

The cotton plant is not an annual, but will live from year to year like a hollyhock. It is never allowed to do so by those who raise cotton crops, however. The most abundant product is obtained with one year's growth and so the seed is sown annually. The pod is called a "boll." If allowed to get too ripe before the fiber is gathered the boll bursts and the cotton flies away like thistle down and is lost.

Cotton, a negro and a mule will probably be always inextricably associated in the minds of Americans. There is a line of plantation poetry which runs:

Cotton bolls a burstin'  
While the nigger stops to snooze.

## Ginseng.

This is a plant of the ivy family and a famous Chinese medicine. It is supposed to take away fatigue and renew youth.



GINSENG PLANT.

In the Chinese vernacular it is called "schin-seng." It has become scarce in China that it is beginning to be an article of export from America to the Flowery Kingdom. The Chinese merchants buy it for from \$1 to \$2 a pound, and American herb gardeners are seriously thinking of trying to cultivate it. The ginsengs do not appear to be abundant anywhere, and the export of our native root has well exhausted the natural supply. Our native ginseng (*Aralia quinquefolia*) is found, but nowhere very abundantly, from Canada along the mountains as far south as Georgia. The engraving shows the five leaflets which give to the plant its specific name. The stalk in the center bears a number of yellowish-green flowers, which are succeeded by a cluster of bright crimson berry-like fruits. The root is usually simple, but when forked, as here shown, the Chin-seng think that on account of its remote resemblance to the human figure such roots have special virtues.

## Aluminum.

A new metal is coming upon the field, which some claim will be all its own, and iron, the metal heretofore without a peer, and the greatest factor of human progress, must step down and out. Aluminum, they say, can be hardened till the diamond is its only rival; it can be drawn into a wire so fine or hammered into sheets so thin that the gold beater alone can do the work; the tensile strength of its wire rises to 100,000 pounds to the square inch of section; water and the atmosphere cannot corrode it; it will burnish like polished silver, blows cannot crystallize it, and its conductivity of heat surpasses that of copper. Then its alloys make an anti-friction metal that goes beyond the power of brass or rabbit to produce. Before such qualities as these iron pales into the metal insignificance. Aluminum is a metal extracted from clay. Sixty years ago a drop of aluminum was produced in a German laboratory after a research of fifty years with the best appliances of the time, and twenty years more were necessary to produce a larger bead. Then in ten years more the metal was on the market at \$22 per pound.

Since then chemistry has been struggling with it by its constant efforts the price has fallen to \$15 for a pound, and now it is so cheap that it can be set at \$4 to the pound. We have an alloy, and the chemist has an oratory; he has hammered

and drawn, and melted and hardened, until every quality is known, but still the price must make it rare. It costs one-eighth the price of thirty years ago, and still it is 40 times the cost of iron. So it matters little that it stands third in quantity of all the substances of which the earth is formed, that it lies about us in every rock of clay or shale, and that nearly every rock is but an ore bed with wondrous possibilities; so long as nature holds the secret key by which it can be unlocked and freed from the combinations in which we find it, it cannot take the place of iron. That this may come in time is not beyond the range of what can be regarded as a possibility; but it must come by slow and labored steps; meanwhile our iron will hold its own and be used as heretofore, while aluminum must be a laboratory metal for a while, and get occasional application in the more expensive implements of science.—Power.

## Health Rules for the Aged.

In discussing the causes of premature old age in mature life, that eminent authority, Dr. B. W. Richardson, points out that indulgence in excessive emotion, passion or bad habits, anticipates age. Grief, vain regrets over what "might have been," all have this effect, and those who wish to prolong their lives to a "green old age," in reasonable health and vigor, should avoid them with the utmost care. But when, as it must, old age has really come, its march toward final decay may be delayed and the way made smoother by attention to those rules of conservatism by which life is sustained with the least friction and waste. The prime rules for this purpose, Dr. Richardson suggests, are:

To subsist on light but nutritious diet, with milk as the standard food, but varied according to season.

To take food in moderate quantity four times in the day, including a light meal before going to bed.

To clothe warmly but lightly, so that the body may in all seasons maintain its equal temperature.

To keep the body in fair exercise and the mind active and cheerful.

To maintain an interest in what is going on in the world, and to take part in reasonable labors and pleasures, as though old age were not present.

To take plenty of sleep during sleeping hours. To spend nine hours in bed at the least, and to take care during cold weather that the temperature of the bedroom is maintained at 60 degs. F.

To avoid passion, excitement, luxury.

## Patent Fire Extinguishers.

An analysis of the contents of the principal grenades, tubes and other patent devices for the extinction of incipient conflagrations has recently been made by Professor Kozlic, chemist of the Agricultural college at Lansing, Mich. He finds that the only active ingredient in all that he analyzed is common salt, and his investigations go to prove what is generally known, namely, that salt water is better than fresh water for putting out fires.

## Facts of Interest.

The Massachusetts Society for the Prevention of Cruelty to Animals has taken in hand the protection of sea birds and lobsters.

The legislature of Iowa recently passed a law that instruction in the effects of stimulants and narcotics on the human system shall be taught in the public schools.

Experiments in Austrian garisons prove that where the floors of barracks are painted with tar the collection of dust in barracks is prevented, and there is a consequent diminution in irritative diseases of the eye. There is also a great diminution of parasites.

# THE FASHIONS

## Traveling Dresses.

Tailor made dresses are the fashion at present for traveling, and are oftenest of small checks, either clearly marked or else the unlined-pin checks that are merely one or two threads of white crossing others of a color—brown, blue, red or black. These must be all of pure wool that will not cockle, yet of light weight that they may not be too warm or too heavy for midsummer journeys. For these reasons the sleekly woven Cheviots and serges are made up by tailors, and the designs for these are exceedingly simple. Two extremes are seen in these dresses, one, intended for slight figures, has short drapery and a skirt of very wide or of very narrow plait, while the other, for those who are inclined to stoutness, has long drapery nearly covering a foundation skirt, which has no plait at the foot. Sometimes a compromise between these is seen in a deep overskirt made of double width wool goods, draped around the figure, with only one seam, and perhaps with the lower edge left to show its selvage. The basque is an exceedingly plain position, with two rows of stitching on its edges, and otherwise without trimming. The plait in the back of the basque must be pressed flat, and secured so that they will not spread open, no matter how large the tournure may be. The collar may be a high standing band, or else it may be a chemisette of pique, or percale, or of checked linen; and it is also a good plan to have a separate chemisette and collar of the dress material, to be used inside the roll up collar, closing the dress up high about the throat, making it more convenient on long journeys. The coat with such a dress is of the material cut in a skeleton saque—that is, without lining—and may be closely fitted by a dart in each front, single-breasted, and buttoned by small flat brass buttons, or else it may have loose double-breasted fronts, with closely adjusted back. The Norfolk jacket, with a hood, lengthwise pairs, and a belt, is also liked in the rough homespun clothes which tailors use for traveling outfits; sometimes this jacket alone is made of checked goods, while the dress may be of a solid color, such as the eury, tan or blue twilled serge or homespun.—Harper's Bazar.

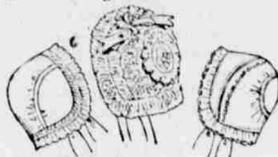
## Chemisettes.

There are many "mannish" styles in vogue for young ladies, among which are the white vest knotted bottomed, the standing collar and knotted tie, the round hat, close long sleeves, cuffs, and heavily stitched walking gowns. If a young lady who affects these styles happens to wear her hair short, it is quite easy, especially if she drives by, to mistake her for a well-grown boy. Some tailor dresses have the vests put in from the second dart, and some from the first; the former style is desirable for slender figures, but for plump young ladies the very narrow line at the waist is better. The vest may be buttoned at the sides under the waist material, or be sewed at both sides and closed with small pearl ball buttons from bottom to top in the middle of the front. Most of the vests have a single point, although some are cut square or have two points, one on each side of the middle. The latter style is admissible for slight figures, but stout ladies should wear but a single point. On the dresses, plastrons, chemisettes or vests of lace, lace or other trim materials are used. They are made in various styles,

the prevailing idea in such trim materials being light, delicate effects. With the present popularity of the full, drooping plastron, it must not be forgotten that they are suitable only for slender figures, and that only plain, rather severe effects are permissible for persons of more than the average avoirdupois.

## The Babies.

We present this week some parts of a wardrobe for small infants, the best things with rose-laf fingers.



INFANTS CAPS.

The newest caps for babies are of French muslin, in bands from the crown to the front, covered with feather stitching, and alternating with insertion of thread or Valenciennes. A full ruche of lace is around the cap, and a small white, pink or blue rosette is stuck in the left side near the top. Others have rows of tiny tucks and feather wide small strings are used, with hem-stitched borders. For cool days, and to protect the eyes from dust, are white Malines net veils three-quarters of a yard long, hemmed all around, and sometimes edged with narrow lace; a ribbon string gathers the veil at the top.

The little cap on the left of the illustration is made of fine white batiste or embric. It is edged with a frill of embroidery an inch wide, headed by a narrow, feather-stitched band. Cut for the top a plain double piece on the bias. Cut out two plain rounding pieces for the sides, and join them to the top piece, gathering it in to fit. The seams are sewed upon the right side, and covered with a stitched band. Face and trim the edge, and run a draw string into the facing. White tie strings of same material as cap.

The lace cap at the top of the illustration is a pretty and tasteful trifle. The crown is made of white piece lace, underlaid with light blue satin surah. It is trimmed with a thick lace ruche around the edge. A rosette of narrow ribbon is at one side of the front, and a wider ribbon bow is placed on the crown.

The cap on the right of the illustration is made of fine white muslin, and trimmed with scalloped muslin frills. Cut a double piece for the front, and a round crown. Face the front with a revers, edged with scallops, which extends back to the plain line. Sew the ends together, gather it, and join it to the crown. Trim the edge with a frill three-quarters of an inch in width. Run a drawing string in the narrow facing around the edge, and put white muslin or ribbon strings to it.



FIG. 2

Fig. 2 shows a baby's cloak and dress or robe.

In the front is an infant's cloak with hood. The cloak is made of cream white cashmere, lined throughout, except the hood, with thin quilted woolen lining. The under part is paired to a yoke. The cape hanging over is edged with white wool fringe and the hood is lined with satin. The little sleeves underneath the cape are finished with a tasteful cuff. Front fastened with buttons. Cuff and hood are sewn together, and are left separate from the cloak, so that they can be worn without it in warm weather. The hood is striped with satin at the edge and shirred at the top in the manner shown. Ribbon bow of cream satin at the top.



FIG. 3

Fig. 3 shows an infant's robe and picture.

The tablier front of this batiste robe is tucked horizontally, trimmed in the skirt with three bands of embroidered insertion, each heading a ruffle of embroidery, and bordered with insertion and a ruff at the sides. Trim the neck with a frill of embroidery. The skirt is in straight breadths, and is a yard and three-quarters wide, it has a four inch hem at the bottom, headed by a cluster of tucks. There is a six inch deep dart at the top, the upper edge is gathered and sewed to the back and side forms, and the sides are joined to the front. Strings four inches wide and a yard long are sewed into the seams joining the side forms and back, and are tied across the back at the waist.

The nurse's dress has a straight, full skirt, made of dark blue woolen goods. The black velvet peasant bodice is worn over a white cambric blouse, which has a flaring plaited ruff. The white apron is very long and wide, and is edged with torkon lace. A quaint, stiffly starched cap of white cambric, trimmed with embroidery, completes the costume.

Neckties are worn over straight collars, and formed of pieces of chased gold, fastened by garnets, which have the effect of diamonds on the dress. They are very particularly desirable when made of lac

# BOYS & GIRLS

## The Foolish Old Woman.

I saw an old woman go up a steep hill,  
And she chuckled all and laughed as she went  
With a will.

And yet as she went  
Her body was bent  
With a load as heavy as sins in Lent.

"Oh, why do you chuckle, old woman?"  
says I,  
"As you climb up the hillside so steep and  
so high!"

"Because, don't you see,  
I'll presently be  
At the top of the hill, ha, he!" says she.



"At the top of the hill, ha, he!" says she.  
I saw the old woman go downward again,  
And she easily traveled with never a pain;  
Yet she loudly cried

And justly sighed  
And groaned, though the road was level  
and wide.



"I shall ache in climbing the next,"  
"Oh, why, my old woman," says I, "do you  
weep,  
When you laughed as you climbed up the  
hillside so steep?"

"I sigh, I am vexed,  
Because I expect,"  
Says she, "I shall ache in climbing the  
next."

Maxim: Hope in adversity,  
Fear in prosperity.

—Howard Pyle.

## Bipeds and Quadrupeds.

This merry game may seem trifling, but if any wise scold thinks he can play it without making up errors mistakes, let him try it and see; for, simple as it is, it keeps the attention on the alert and the faculties on the strain. The players stand in two lines, facing each other, with a leader at the head of each line. It is the duty of the leaders of the lines to call out the letters which they can change as often as they please. There must be an umpire chosen, also, who sits at the head of the lines, at an equal distance from each. The umpire must call out the numbers, which are number two and number four, and also count ten slowly while each player is guessing. He calls out either one of the above numbers the moment the leader has given out the letter, and then begins to count. When the leader of the right side gives out a letter the second in line on the left side listens to the number called by the umpire, as he knows that number two refers to a biped and number four to a quadruped, and that he must name some member of the animal kingdom answering to the above description which begins with the letter called by the leader of the opposite side. If he fails to do this correctly before the umpire counts ten he must cross over and take his place at the foot of the opposite line. The umpire must see that there is no mistake, such as repeating any name once, or giving to any animal too many or too few feet. When the player on the left has answered, whether correctly or no, the leader of the same side in his turn calls out the same or any other letter, the umpire follows with his number, as before, and if the second player on the right fails to answer correctly, he crosses over and belongs to the left side, standing at the foot of the line. If the player answers the question properly, he keeps his place, and if a wise handler, chief around his neck to show that the next question addressed to his side must be answered by the player who stands next to him in the line. When the game has gone on for half an hour the umpire calls out "Time," and the side which has the most players is declared the victor.

The game must go on with great rapidity, and the efforts of players to answer rapidly without in haste are very amusing, as most of them make the most ludicrous blunders, after which they are obliged to march across to the other side as prisoners.—New Games for Parlor and Lawn.

## Two Bluecloth Files.

A gentleman making a call at the home of a friend was astonished to find the rooms and passages in confusion, and on inquiring the cause was answered, "Oh, we are very much annoyed here; a rat has come to finish his existence under the floor of our large drawing room. We do not know the exact place, but we cannot endure the stench any longer; so we have removed the furniture, rolled up the carpets and called in the carpenters, who are just beginning to take up the floor."

"Now, don't be too hasty," said the visitor; "you need not put up more than one board. I will show you what I mean presently, and meanwhile, shut down the drawing room windows and close the door."

He then stepped down into the garden, walked round to the horse stable and after a few minutes absence came back to the drawing room with both hands tightly clasped. Facing himself in the center of the floor, he opened his hands and out fell two large bluecloth files and buzzed around the room for a second or two. But presently one of them alighted on a certain plank of the floor and was almost immediately followed by the other.

"Now, then," said the visitor, "take up that board and I'll engage that the dead rat will be found beneath it."

The carpenters applied their tools, raised the board and a once found the cause of the unpleasant smell.—The Sanitarian.

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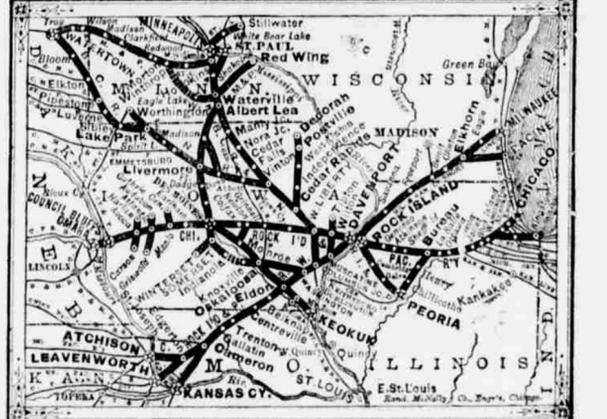
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