

## BUILDING AND SCIENCE

### ART IN ARCHITECTURE

How to Invest Two Thousand Dollars to Advantage—It Does Not Cost Any More to Build a Handsome House Than an Ugly Box, Provided You Have Good Taste.

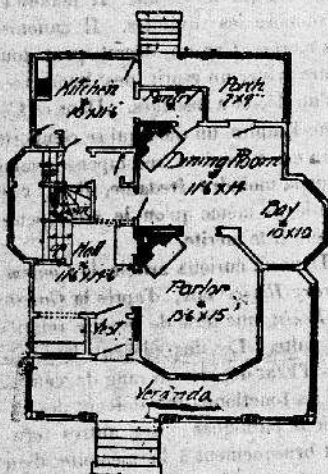
[Written for This Paper.]

This seven-room house can be erected for \$2,000 upon a rubble stone foundation. The size of the main building upon the ground is 27x35 feet. The size of the vestibule is 4x5 feet; hall 11 feet 6 inches by 14 feet 6 inches; parlor 13 feet 6 inches by 15 feet; dining-room 11 feet 6 inches by 14 feet; bay 10x10 feet; kitchen 10x11 feet 6 inches;



PERSPECTIVE VIEW OF HOUSE.

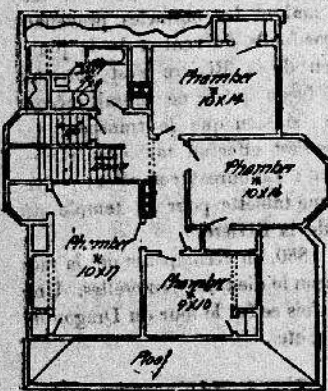
pantry 2 feet 6 inches by 7 feet; chambers 10x17, 9x10, 10x16 and 10x14, and bath room 7x9; the stairs, hall, parlor and dining-room will be finished in Georgia pine; all other rooms to be finished in pine painted two coats. The parlor, hall and dining-room will have mantles, and all floors are to be of pine double, except kitchen and pantry floors, which are to be of maple. Joist 2x10-16 inches on centers; studs 2x4-16 inches on centers; roof rafters 2x4-20 inches on centers. The



PLAN OF FIRST FLOOR.

first story will be 9 feet 6 inches in the clear, and the second story 9 feet. All shingles must be extra Star A Star, and all glass American double thick. The front stairs are to have an neat newel post and balusters; the rear and attic stairs are to be boxed.

The walls are to be sheathed with fence flooring. The exterior will be finished with 4-inch O. G. siding, laid 3 inches to the weather. The gables will have round butt shingles. The paper will be placed between the



PLAN OF SECOND FLOOR.

sheathing and siding and between the double floors.

The rubble stone wall is to be 16 inches thick. Above grade it will be broken ashlar work. Below grade the rubble wall will be plastered with cement. The chimneys showing above the roof will be of a good quality pressed brick, capped with a smooth sand stone cap. The owner will furnish oil glass, mantles, furnace, shelf hardware and bathroom fixtures. The exterior of the house will be painted as follows: Trim-mings, white; porch floors, grey; porch ceilings, blue; inside body of house purple, including the shingles in the gables. The roof is to be stained a dark Indian red.

Plastering must be two-coat work. The roof boards are to be of fencing surfaced, one side well nailed to every rafter, and leave air space of 1/4 inches between each board. All doors on first floor to living rooms are to be 2x7-7x21/2; sliding doors, 4x2-21/2; doors to closets on first story 3-2x-11/2; all doors to chambers 2-2x-21/2; to closets 2-2x-21/2. The entire house will be piped for gas and furnace.

George A. W. Kirtz.

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The African traveler, Jean Hoon, asserts that in their natural condition the negroes of Africa observe the rules of personal cleanliness much more carefully than most of the laboring classes in Europe.

## ABOUT CATERPILLARS.

The Interesting Operation by Which They Change Their Skin.

A day or two before the actual moment of molting the caterpillar ceases to eat and becomes wholly inactive as far as locomotion is concerned, usually remaining perfectly stationary. The worm appears very weak and languid, but this notwithstanding, he continually gives his body a series of gyratory motions, but always without shifting station. First the back will be bent upwards or laterally, and a moment later it will assume its normal condition, whereupon the head will be elevated, only to be as speedily drawn down again. At another time it will be noticed that the anterior por-

tion of the body will make two or three very rapid vibrations back and forth to the right and left, while less perceptible motions are communicated to each separate ring or segment of the creature's body. It has been observed that this segmental motion is not distributed evenly among the various rings, some of the joints seeming to dilate considerably, while others contract to less than half their natural size. The effect of these alternate contractions and swellings soon becomes apparent, for the outer skin, now rendered dry as parchment by the subtraction of the juices by which it was previously nourished, begins to split on the back of the second or third segment behind the head, the opening disclosing a portion of the new integument. The rent being once commenced is easily extended by the dilation of the body and the various other movements which are imparted to it until at least three segments are open, thus leaving a considerable of the back exposed. As soon as the creature is conscious that its back is free, that portion is quickly curved upwards, a movement which invariably disengages the head and leaves the whole forward half of the body free from the old envelope. The head is next reclined upon the empty case, nothing remaining to be done but to withdraw the hinder part of the body. This operation is performed by contracting the segments and drawing them towards the head until they reach the opening. The apparent laborious operation is performed in a very short space of time.—St. Louis Republic.

## THINNEST IRON SHEET.

Remarkable Metallurgical Achievement Recorded in Wales.

An interesting metallurgical achievement has been lately recorded at the Hallam iron works, near Swansea, Wales, a metal sheet of the finest appearance and most marvelous thinness ever yet produced. The details show that the iron from which the sheet was rolled was made on the premises, worked in a fiery with charcoal and the usual blast, afterward taken to the hammer to be formed into a regular flat bottom, from hence conveyed to the balling furnace, and, when sufficiently heated, taken up to the rolls, lengthened and cut by shears into proper lengths, piled up and transferred to the balling furnace again. When heated it was passed through the rolls back again into the balling furnace, and, when duly brought to the proper pitch, taken to the rolls and made into a thorough good bar. On being taken now to the tin mills and rolled until it became thinner than twenty-three grains and afterwards passed through the cold rolls to give it the necessary polish, it stands on record as the thinnest sheet of iron ever produced. It is the data shows a sheet of 10 by 5 1/2 inches, or 55 inches square, and weighs but twenty grains, which, being brought to the standard of 2 1/2 by 5 1/2 inches, or 44 inches square, is but sixteen grains, or 30 per cent. less than any previous and requiring at least 4,900 tons one inch in thickness.—Paper Mill.

## Colors from Coal Tar.

Coal tar, formerly considered a waste and a regular nuisance to gas workers, is now utilized as one of the most valuable color producers. Chemists have extracted from it 16 shades of blue, the same number of various tints of yellow, 12 of orange, 9 of violet, besides numerous other colors, shades and tints. A late magazine writer in summing up an article on "Uses of Coal Tar," says: "The amount of coloring matter stored in coal is so great that one pound of the common bituminous variety will yield sufficient magenta to color 500 yards of flannel, aurine for 120 yards, vermilion for 2,500 yards and alizarine for 200 yards of turkey red cloth."

## New Antidote for Poison.

Dr. Johann Antal, a Hungarian chemist, says he has discovered a new chemical compound, the nitrate of cobalt, which he says is a most efficacious antidote to "poisoning" by cyanide of potassium or prussic acid. He tried the antidote first on animals and afterwards on forty living persons who had been accidentally poisoned with prussic acid. In not a single case did the antidote prove a failure.

## OF GENERAL INTEREST.

The first oil well in America was discovered on a small mountain farm in Wayne county, Ky., in the year 1829. John Dennis, a laborer, was sent to jail for seven days for the theft of a farthing from the till of a bar in London.

New Hampshire was formerly called Tacania. It received its present name in 1829, being first called New Hampshire by Capt. John Mason, who had been a resident of Hampshire, England.

Coal is not forming, the natural growth of wood is quite insufficient to supply the demand for fuel and the coal mines will be eventually emptied. Scientists say electricity will take its place.

According to the tenth census, of the United States the Indian population, exclusive of the Indians of Alaska, was 249,273; the report of the commissioner of Indian affairs for 1893 gives the Indian population, exclusive of the Alaska Indians, as 249,366.

In Texas and Arkansas the temperature, on the 2d of July, was "higher than ever before recorded," maximum temperatures of 106 degrees occurring at Fort Smith and San Antonio, and 102 degrees and 93 degrees at Palestine and Corpus Christi, respectively.

The children in a North Atchison neighborhood arranged to give a menagerie recently and one procured a trained rat, and another a trained cat, and another a trained dog. The trained cat was buried in the morning, with the trained rat inside it and the trained dog was being chased.

Elvina and Elmira Fife, twin sisters, who will soon celebrate their eighty-third birthday in Petersburg, N. H., have never ridden on a railroad train, and declare they never will. At the age of fourteen years they entered the employ of a local manufacturer, on whose pay-roll they remained for sixty years.

"You are never too old to ride a bicycle," says a professor of the art of bicycling. "There are bicyclers who are between 60 and 70 years of age, and I can tell you of some who are over 80. One of the best bicyclers in town has got beyond his 60th birthday and he is bald as a drum, too, but can beat most riders of 20 or 30. An old wag on his machine scooting along a level road under a full head of wind is a sight to behold."—N. Y. Sun.

Divide the number expressing the year by four (4), taking no notice of the remainder. Next find the number of days inclusive from the 1st of January to the date in hand, reckoning February always as having only twenty-eight days. Add together the sum, the quotient and the first numbers and divide this by seven (7). The figure of the remainder gives you the day of the week, one (1) standing for Sunday, two (2) for Monday, and so on.

One catches the first far and fine view up the Hudson at Eleventh avenue and Sixty-first street where the railway tracks suddenly shoot westward to take possession of the river bank. In the foreground is the maze of tracks with green weeds springing between. A little further on is an old stone house completely clad in ivy and doing duty as an office for the railroad, and beyond is the splendid freshness of the Palisades, green and purple, and the broad tide-lined bosom of the river.—N. Y. Sun.

Ten thousand mosquitoes dance up and down in the sun, with the minutest interval between them, yet no one knocks another headlong on the grass or breaks a leg or a wing, long and delicate as they are. Suddenly a peculiar, high-shouldered, vicious creature, with long and pendent nose, darts out of the rising and falling cloud, and settling on your cheek, inserts a poisonous sting. What possessed the little wretch to do this? Did he smell your blood while he was dancing? No one knows.

A writer in the London Notes and Queries says: "It is worth while recording that the 'penny in the slot' automatic machine was known in the time of Hero of Alexandria, who describes in his 'Pneumatics' a sacrificial vessel which flows only when money is introduced. When the coin is dropped through the slit it falls on one end of a balanced horizontal lever, which, being depressed, opens a valve suspended from a chain at the other end and the water begins to flow. When the lever has been depressed to a certain angle the coin falls off, and the valve, being weighted, returns to its seat and cuts off the supply. Hero's date is a little uncertain, but he is supposed to have lived B. C. 117-81."

As most persons know, there is a broad, flat arch at the intersection of Forty-second street and First avenue, but, as perhaps many persons have not observed, that arch becomes the frame for an interesting picture to persons looking eastward along Forty-second street from a point a few yards west of the arch. The picture included within the frame is a somewhat commonplace foreground on the New York side of the East river, the river itself, with a fine light from the sky, and its moving nautical panorama in the middle distance, and beyond the Long Island shore, with warm red brick buildings, steaming chimneys, and a church spire that ever and anon takes a curious trembling as seen through the heated air that comes from the smokestack of some passing steam craft.—N. Y. Sun.

## Cake for Everybody.

A proficient cook has an eye to variety and suitability. Even in the matter of cake she is careful to suit all tastes. Thus: For farmers—hoe-cake, fruit-cake and seed-cake. For pugilists and carpenters—pound-cake. For reporters—spice-cake and jumbles. For messenger boys—ginger snaps. For politicians—election-cake and plum-cake. For idlers and ne'er-do-wells—loaf-cake and fritters. For tramps—sponge-cake. For greedy children—stomach ache.—Youth's Companion.

## WOMAN AND HOME.

### FILLING THE CRACKS.

How to Repair Floors and Woodwork Which Are Unsightly.

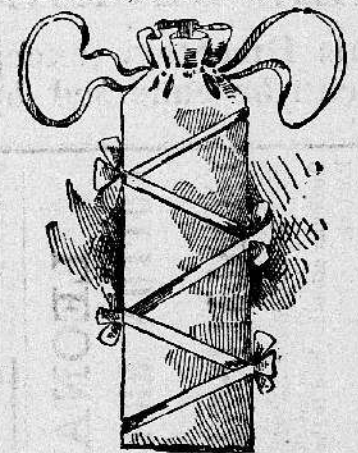
Your floor has great wide cracks and rough places. Such a floor is better painted than stained, although it is more trouble to fix it in the first place. Large cracks should be filled, and this is tiresome work. Putty is cheap and easy to get, and you can press it in with an old case-knife. If the blade of the knife is broken off half way it will be even better. Plaster of paris fills cracks, too, and when freshly wet up spreads like putty. Mix it up with a little cold water and it is ready for use, but mix only a little at a time, as it hardens rapidly. There is yet another mixture which you can make yourselves, and which is excellent. Shred up paper—newspaper or common wrapping-paper—into bits, and pour boiling water over it. When it is soft stir into it a paste. Drain out the surplus water and add some glue—about two or three table-spoonsful to a quart of the paste—and fill the cracks with it, being careful to trim off the tops smoothly. Otherwise your cracks will make ridges through the paint. When any of these fillings are dry, your floor is ready for painting. It is best to get the mixed paints that come prepared for use, or else to get some kindly painter to mix it for you. It takes quite a little judgment and experience to know when paint is of the right thickness to spread well. Get the same painter to select your varnish, for there are many poor varnishes that will not dry, and you do not want to get into any such trouble. Dark brown or red paint make the prettiest floors, as the tints can be made to look like black walnut, or cherry, by cautiously adding lamp-black. Be sure to wear your oldest clothes when you are painting, and do not scatter your paint, brushes, and pails around. Keep them as far out of the way and as far out of the smell of the family as possible. Else everyone will wish you had never begun to decorate your room. Wear old loose gloves. They will keep your hands clean, and perhaps save blisters.—Harper's Young People.

### PRETTY BOOKMARKS.

Clever Little Articles Which Are Cheap and Easily Made.

A convenient, a most necessary, article when one is reading a book is a handy marker of some durable material. Careless people invariably turn down the corner of a leaf to mark the place where they leave off reading. This soon spoils the volume. A very pretty and popular bookmark is made out of a piece of ribbon, with a souvenir coin fastened neatly to one end, and a metal or ivory paper cutter on the other, as in the accompanying illustration.

Another marker is made from two pieces of stiff cardboard, cut in the shape of maple leaves, one slightly larger than the other. These are fastened together at the base, leaving the pointed ends loose, so that they may be slipped on either side of a page. A kite-shaped piece of cardboard can be turned down one end, forming a triangle, and with an owl's face pasted so as to peep over the top when the book is closed, makes a neat and artistic article.



The article. A recently manufactured novelty in this line was carved out of some valuable wood, the long and shown in the cut being placed between the pages.

The end with the dog's head formed a sort of handle. A cat's head is made out of cloth and small piece of fur; this is attached to two pieces of cardboard, one longer than the other, leaving the lower end open for the page. Almost any little girl or boy can make these book-markers by carefully studying the designs printed here.—N. Y. Recorder.

### Good Things to Know.

That meat should never be placed directly upon the ice, as its juices will be absorbed; put it on a plate and set it in a cool place. That if dish towels and cloths are boiled up in water with ammonia every second day, there will be less trouble with sticky dishes. That common salt rubbed into the roots of the hair will remove dandruff; rub a little in at night, and in the morning the salt will be all gone, and after a few applications the dandruff too, leaving only a slight dampness. That a piece of chamomile, fitted to the heel, bound on the edges with tape and kept in place by an elastic worn over the stocking, will save much mending. That castor oil applied to warts once a day for from two to six weeks will remove them.—Indiana Farmer.

### The First Cloud.

Mother—You can't stay in this hot city. Why don't you tell your husband you must go to a summer resort? Bride—I-I don't dare. "Why not?" "If he says 'no,' I will be miserable because I can't go, and if he says 'yes' I will be miserable because he can live without me."—N. Y. Weekly.

### Her Answer.

She did not say "yes" then and there. As maidens often do. But next day she picked out a chair just big enough for two.—Detroit Free Press.

## FOR THE CHILDREN.

Description of Some Very Pretty Dresses in Late Styles.

Children have such a determined way of growing out of their clothes, and need so many little gowns to keep them always suitably dressed, that it is sometimes a difficult thing to find a variety of ways to make and trim them without spoiling the simplicity which is their charm. If it were only the fashion to dress all children under a certain age in a simple uniform, what a lot of bother it would save; but the tendency is rather in the other direction, and in many cases they are made to look more like miniature women than little girls. Elaborate costumes and expensive materials are not in good taste, and are sure to take away, rather than add to, the attractiveness of children. Simple muslins, gingham, China silks, serges and cashmeres are the most desirable materials employed. To such of the mothers as make the little frocks, a few suggestions with the models may afford some welcome hints. Little girls over eight can wear linen, flannel and silk shirts with plain skirts, but they are made blouse style to hang over the belt, and have an elastic around the waist. The collar is Eton shape. The silk shirts



THREE LITTLE SUMMER GIRLS.

are tucked with fine tucks in front, and have a turn-down collar, trimmed only with feather stitching. Skirts are short, reaching a little below the knee, except for very young children. Gimpes are as popular as ever, and always look childish and pretty. A pale blue crepon dress has a round waist, a square yoke of embroidery with little rosettes of satin ribbon in front. Another little dress illustrated has a plaid silk skirt, a white wash silk blouse made with a yoke collar laid in two box plaits in front and bordered with satin ribbon. A serge gown for a girl from eleven to thirteen years of age is made with a plain skirt, with one row of braid for trimming. The blouse bodice has a white serge vest barred across with the braid. The waist is finished with a band and two rosettes on each side of the front with two long ends.—N. Y. Sun.

### WHOLESALE COOKING.

It Is Essential to the Well-Being of Every Member of the Household.

Cooking is in reality a partial digestion of food previous to its introduction into the stomach. It is employed by man alone, and distinguishes him from all other creatures.

Many articles used as food are entirely indigestible in a raw state. Some of the most nourishing of them are actually harmful if eaten uncooked.

Cooking, to be esteemed a science, must be performed in such a way as to render the raw products of the earth as easily digested as possible. By virtue of such preparation the system is supplied with the greatest amount of nourishment for the least expenditure of vital energy in the various processes of the digestive chemistry.

But good cooking must not only render food digestible; it must make it at the same time palatable. Every physician recognizes the necessity of furnishing a convalescing patient with food that "tastes good." Indeed, he will often allow himself to be overruled by the wish of the patient for some particular article of food, in the hope that the feeble appetite may thus be stimulated and a steady demand for food induced.

Cooking at its best, therefore, is both scientific and artistic; scientific when it best serves the purposes of economy; artistic when by virtue of an added tastefulness, it stimulates the digestive processes to activity.

It must always be remembered that the stomach is not a machine, but an organ extremely sensitive to every nervous influence, so that the tastefulness of food is a direct aid to digestion. Those, who, from the necessity of their occupation, are sedentary and confined to the house, are more sensitive to the effects of cooking—whole some or otherwise—than those whose employment takes them out of doors.

The degree of health enjoyed by the family may often be credited to the intelligent interest exercised in the kitchen in favor of good, wholesome food, and it is not too much to say that an accomplished cook may justly be proud of an art which so closely affects the health and well-being of the household.—Youth's Companion.

### Recipe for Spanish Sandwich.

Slice rye bread thin, spread it first with made mustard and then with cottage cheese, butter the top-slice, lay them together and your sandwich is complete. If you wish to stone olives and lay them in mayonnaise dressing on one slice, covering the other with mustard, or to slice hard boiled eggs, you can have another sandwich.

### Only One in Sight.

Jack—What do you girls do evenings at the seashore?

Jess—We dance together, and then go out and look through the telescope at the man in the moon.—N. Y. World.

### Kiss.

May—I don't think much of a man who proposes to a girl by letter. Carrie—My dear, you should feel grateful to a man who proposes to you in any way.—Truth.

### The Economical Wife.

She made herself a lovely gown And thought it was so nice, She went and bought another As a more enormous price.—Judge.

## HOUSEHOLD BREVITIES.

—Powdered pipe clay, mixed with water, to remove oil stains from wall paper.

—Blackberry Jam.—Take four pounds of fruit, put into a kettle with two pounds of good coarse sugar, and set over a fire, gently boiling it for one hour, occasionally stirring it to prevent burning. When done put in jars and seal.—United Presbyterian.

—A very striking and beautiful portiere was seen not long ago made of olive-green serge. On this was applied a running pattern in darker green velvet. This was outlined with a thread of gilt, and there was a broad band of the same velvet with the same outlining at the bottom of the curtain.

—Chicken Pie.—Stew the chicken until tender, pick the meat from the bones and chop fine. Mix one half cup of gravy with one half cup of milk and a little salt and pepper; thicken and put in the mixture, cover with cover and bake quickly.—Ohio Farmer.

—To make Florida water take two drams each of oil of lavender, bergamot and lemon, one dram each of tumeric and oil of neroli, thirty drops of oil of palm and ten drops of oil of rose; mix these ingredients well with two pints of deodorized alcohol. It will be ready for use in two or three days after mixing.—Boston Budget.

—One of the lunch-counter delicacies in Chicago is known as the "Maryland sandwich." It is made by putting minced ham and sliced tomatoes between the two halves of a Maryland biscuit. The ham, the tomato and the hard, brittle biscuit agree very happily and the biscuit is an excellent article of luncheon diet.—Chicago Record.

—A medical journal offers a suggestion for keeping out those nuisances—flies: "Expose a little oil of bay in a saucer on your window sill, or coat your doors and windows with any color of paint you like, containing as little as four per cent. of oil of bay, which is far from expensive, and can be had anywhere, and not a single fly will enter your house."

—Oil Pickles.—Peel and slice the cucumbers a little thicker than for the table, sprinkle salt through them, and let them stand two hours. Then press all the water out, and mix red pepper and mustard seed through them. Take cold vinegar enough to cover them, add allspice and cloves; heat the vinegar and pour over the cucumbers hot. Let it stand until cold, then add good salad oil to taste.—Boston Budget.

—Pork Loaf Cake.—Chop fine one pound of pork and pour over it one pint of boiling water. Add one teaspoonful of molasses, with three-fourths teaspoonful of soda dissolved in it, two teaspoonfuls sugar, three teaspoonfuls of fruit, one teaspoonful each of cinnamon and allspice and one-half teaspoonful of cloves; also a pinch of salt, and flour enough to make a thick batter. For frosting, use the whites of two eggs and four ounces of sugar.—Orange Judd Farmer.

—Currant Jelly.—Pick the currants before fully ripe; assort, wash and drain; place them in a tin or porcelain vessel, and mash them until the juice runs freely. Boil from the top of the stove ten minutes; then place in a bag made from cheese cloth, and drain until the juice is extracted from the pulp. Put the juice in a porcelain kettle or a bright milk-pan and boil briskly for fifteen minutes, skimming it frequently. Now remove from the stove and measure the condensed juice, allowing a heaping quart of sugar for each quart of juice; place the juice on the stove, add the sugar previously heated in the oven, and boil five minutes, or until the surface of the vessel is covered with bubbles, which is a sure indication that the mixture is sufficiently cooked. If these directions are faithfully followed, one may expect good, firm jelly that can be cut with a knife.—Cultivator and Country Gentleman.

—Loose Woolens Are the Best for the Hot Weather.

Hygienists, as well as modistes, have given instructions for summer dressing, and where the two conflict, sensible people will hardly be in doubt which to follow.

Clothing for hot weather and for vacation should be selected with a view, not so much to style, as to comfort and health. The advice would be trite were it not supplemented with details.

In the first place, then, summer dress should be loose and roomy. Be it said to the credit of girls, it is not alone a desire to be stylish, but an increasing realization of what is healthful, that induces them, as well as their brothers, to take an active part in out-of-door games and sports. The willowy figure and slender waist are no longer cultivated; but instead, an athletic muscular development and the wholesome tan which tells of exposure to the sun and air.

Dress which does not cramp any part of the body is essential to success in out-of-door games, as it is essential also to health. Another thing to be said about summer clothing is, that one garment, usually the one worn next to the skin, should be of woolen material. It may be as light as necessary, but of wool. In order to keep cool on warm days, free perspiration is necessary, and to avoid sudden chilling, with its attendant dangers, evaporation of the moisture collecting on the skin must not be sudden. A garment of cotton or linen readily yields moisture to the air; hence the garment becomes cold as soon as it becomes moist. Stout shoes with heavy soles, while not so absolutely necessary to health in summer as in winter, are really more comfortable than any other. Every pedestrian will give it as his experience that a heavy sole is better than a light one for both comfort and health. Stone-bruise and corns are among the penalties for wearing pointed and thin-soled shoes. On the other hand, broad and stout shoes allow an indulgence in that most healthful of exercises—walking in the open air.—Youth's Companion.