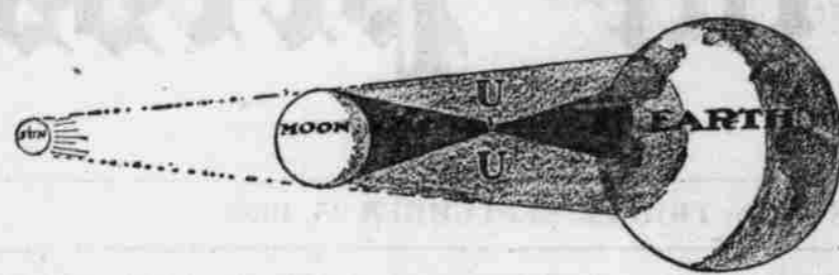


WHEN THE MOON OBSCURES THE SUN.

The moon, coursing in its orbit about the earth, cuts off the rays of sunlight from a part of the earth's surface, making a long, narrow, conelike, deep shadow (see illustration between U and U), which the earth intercepts in her orbital course about the sun. This dark shadow is called the "umbra," and it marks the "total"—or in this case "annular"—pathway of the eclipse. The part in the diagram marked U and U (of lighter shading) is called "the penumbra," or "almost shade," where not all the rays of light from the sun are cut off.



The name "annular" is given to the variety of eclipse where the sun's disk is nearly but not entirely covered or hidden from us; there remains a narrow "ring" of bright sunlight all around the dark body of the moon as it covers over the disk of the sun. All eclipses of the sun are caused by the moon's coming between the earth and the sun, and this results in either a partial eclipse, an annular eclipse, or a total eclipse of this body.

earth's center to the center of the sun must be crossed by the moon's center during her revolution about the earth in order to produce a total or an "annular" eclipse. If the moon's center is either side of such a line, then the eclipse is a partial one, as only a part of the moon's surface thus becomes placed between the earth's and sun's centers.

The difference in the cause leading up to an annular eclipse or a total eclipse is in the moon's relative distance from the earth at these times; that is, whether in "apogee" (the farthest away point from the earth) or in "perigee" (the nearest point to the earth); for, of course, the farther the moon is away from us (she travels in an elliptical orbit about the earth) the smaller is the apparent size of her diameter to us, and hence the lessened amount of the sun's surface she will cover.

THE OLD PLAYHOUSE.

I know a place where the sunlight falls,
Whether in frost or whether in shine,
Day and night on the pictured walls,
That ne'er have changed at the touch of time.
Tho' you might search for the spot in vain—
(The key of the castle belongs to me)—
Some happy days I can find again
My playhouse under the apple tree.

The mansion old, in its cloak of gray,
Crept out of sight to make way for trade;
Gone are its walls and the garden gay,
Where violets grew with the larkspur staid.
They say that the orchard, too, is gone,
And naught remains that I used to see—
But I visit still, 'twixt the eve and dawn,
My playhouse under the apple tree.

They say the friends that my childhood knew
Are men, grave-browed, and are women, said;
But I meet them there as I used to do,
Each merry girl and each sturdy lad,
Little we know of each other's lack,
Whom Fame hath honored and whom left free.
The years are forgotten as we troop back
Into the playhouse beneath the tree.
—Grace Duffie Boylan.

His Daughter Frances

The man in the library turned in his chair and looked at the picture of a woman over the mantel. The woman was young and beautiful, and the artist had appreciated his subject. The man looked at the picture long and earnestly, and softly sighed. Then he touched a button on the wall.

"Send my daughter here," he said to the servant.

Stephen Elliott turned back to his papers. But somehow the written words seemed to run together. The man's mind had turned back to the subject of the portrait over the mantel. They had been so happy for such a little while. Then she had gone, leaving him with an infant daughter.

How well he remembered her last words.

"Be very good to our child, Stephen. Watch over her, care for her—be mother and father to her."

He had promised with little thought of what he was saying, his great grief blotting out all minor details. Now the words came back to him. Had he carried out that promise? Was he giving his child, their child, the care that her mother would have given her? Was it the right kind of care?

"Did you want me, papa?"

He looked up quickly. A slender girl of 15 was standing by his desk. She was a dark-eyed child, pale and listless.

"Yes, Frances. Sit here. I want to have a little talk with you." He paused as she took the chair he indicated. "Frances," he said, "are you quite happy here?"

She looked at him a little startled.

"Why, yes, papa."

"There is something else I want to say to you, Frances. I am going away."

"Yes, papa."

"I am going far away—to Japan and then across Asia to Europe. I may be gone for a year or even more. It depends on my business success."

"You couldn't take me with you, could you, papa?" she asked.

"No; that is quite impossible. Some day, no doubt, you can go with me after you finish school."

The child turned and softly left the room. The father watched the slender figure disappear. Poor, motherless girl. A sudden wave of pity surged through his heart. Had he done the best he could for the child? How very tame she seemed, how lacking in emotion. He sighed as he turned back to his papers.

He thought of the lonely figure he was leaving behind as he sped across the continent. The child had clung to him at their parting and cried bitterly, but his sister Edith had drawn her away and comforted her—and he had hurried into the waiting car. Edith was still holding her close as the train sped away.

It was more than two years before

Stephen Elliott turned his face homeward. He was not well. The fever had left him weak and irritable, but he suddenly felt a strong determination to go back to America. The details of his business were in competent hands. He had become a very rich man. There was nothing to take up his attention now save the recovery of his health.

His family physician was at the dock to meet him. This old friend looked at him anxiously as he pressed his hand.

He saw Stephen settled in the big easy chair that faced the wide window through which he could see the long wooded slope and the sparkling Hudson. Then the old doctor pressed the wasted hand and growled a word or two of cheer and hastened away.

As he sat there he heard a voice. Somebody was singing in an inner apartment. It was a pleasant voice, low and mellow. It must be the maid. There was something soothing about the voice. The shadows were creeping up the hills. The mists were rising from the river. He closed his eyes.

He was aroused by a voice from the inner doorway.

"It is half past 5. I must bring in your supper."

"Very well," he said.

A lamp was brought into the room. Another lamp was lighted. A table was moved about. He heard the clatter of cups and spoons. A firm hand grasped his chair and turned it on its well-oiled casters. A little table, daintily spread and garnished, stood before him. A vase of flowers was in the center of the snowy cover. The fire in the grate threw shadows on the ceiling. The lamps were shaded. A rosy glow filled the room. Stephen Elliott felt strangely comfortable.

He looked at the table.

"You knew what the doctor ordered?"

"Yes."

"It looks very nice. And you knew that lights might hurt my eyes?"

"Yes."

"The doctor has made all the arrangements with you?"

"Yes."

He did not look around. He knew she was standing near him in the shadows.

"Your voice is the voice of a young person."

"Yes."

"And where did you learn to do these useful things?"

"At school. At a school where the girls are taught to be self-dependent."

"But you must be quite young."

"I am well and strong. I have had excellent physical training."

"A fine school, truly. Tell me about it. You liked your companions?"

"Oh, yes."

"And they liked you?"

"I am sure they did. They made me their class president."

Stephen Elliott had been eating as he talked. Something had given him an unusual appetite. And the simple food before him was beyond criticism.

"It doesn't seem quite right for the doctor to coo up a fine girl like you in this out-of-the-way place. For you must be a fine girl. I would like to look at you."

She came slowly and stood beside him.

The light from the mantel lamp fell on her face.

He stared up at her, his lip quivering, his hands trembling.

There was a moment's silence.

"Is it you, Frances?" he whispered.

"Yes, father."

She stooped quickly, her round arm was about his neck her blooming cheek was pressed against his pale one.

"My dear dear child," he brokenly murmured. Then he held her off a little. "And you have come to take care of me?"

"I've come to make you well, father."

"And you are the companion?"

"We will be quite alone here, father—just you and me."

He looked at her tenderly. Then his eyes sparkled.

"You are a fine girl, Frances—a splendid girl. I—I am very proud of you."

The girl raised the lamp.

"Look above the mantel, father. I had my mother's picture hung there."

Stephen Elliott looked at the portrait.

"I think she is smiling," he softly said.—W. R. Rose, in the Cleveland Plain Dealer.

It's a poor excuse that a woman won't accept when she wants to because nobody else will.

The way a woman judges how sick her husband isn't by how much fuss he makes about it.

When a girl wants you to squeeze her hand it's a sign she will make more fuss about it than if she didn't care.

There's always a lot more enjoyment in smoking when your wife worries for fear you will spill the ashes on the floor.

To maintain her social position a woman needs to have things in her wardrobe whether she can wear them or not.

There's something about the clothes women wear in summer that makes you think how different they would be if they were dressed.

Something a woman can never learn is that when a man who works hard all year gets a little holiday he'd rather spend it enjoying himself than visiting her relatives or have them visit him.

Every woman would like her son to go into the ministry except that she is afraid it would stand in the way of his being President.—New York Press.

The Screech Owl's Troubles.
Screech owl dar in de basswood tree,
Jes' as mo'nful as it kin be,
Hollerin' so dat we hol's our bref—
Screech owl got us skyah't half to de't!

Dar's nuffin' at all dat's troublin' him.
He picks a com'fable troublin' limb
An' keeps a mo'nin' de whole night through
Like his kin disowned him an' de rent was due!

Dar's a heap o' folks, 'twix' me an' you.
Dat acts pretty much like de screech owl do—
A-sighin' an' a-cryin' like deir hearts would break
On' wifout no trouble, 'cepin' what dey make.
—Washington Star.

Ink on Leather.
For ink spots on leather chairs wash the spots with milk, renewing the milk till it is no longer stained and the spot on the leather has disappeared. Then wash the leather with warm water, and when dry polish it with a very little linseed oil and vinegar mixed in equal parts. The ink stain should be removed as quickly as possible, for if allowed to dry and harden it is doubtful whether you will ever be able to entirely remove it.

Three Feet and a Yard.
The trouble with buying residence property by the front foot is that it requires considerably more than three feet to make a presentable "yard."—Kansas City Star.

The man who is right-headed is apt to be good-hearted.

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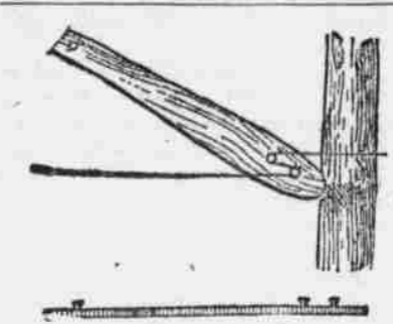
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AGRICULTURAL



Wire Fence Tightener.
Every farmer knows how hard it is to keep wire fences in good condition more than a year or two at a time. Cattle are bound to rub up against them, people will sag the wires in getting over the fence, and even the weight of snow has been known to break them. A wire fence looks all right as long as the wires are taut, but as soon as the strands begin to



WIRE-FENCE TIGHTENER.

sag and loop it is no longer attractive, nor is it a sure means of keeping stock within bounds. Many devices have been suggested and even patented for stretching wire, but here is a simple little contrivance that anyone can make in a few minutes that will do the work quickly and well. For short spans it can be made of wood, although for heavy wires or for long stretches it would be better to make it out of iron. This little contrivance is about two feet long, with two plus about three inches apart at one end. Place the wire between these plus and turn the stretcher around until the wire is drawn tight. By engaging the pin at the other end of the stretcher the tension can be maintained while the wire is being nailed fast. With an arrangement of this sort one man can do rapid work alone and fix up a sagging fence in short order.

To Make a Good Cistern.
An absolutely water-tight cistern may be made as follows:
In digging, the sides should be made smooth and true perpendicularly. For the bottom use five parts of clean, coarse, sharp sand (plasterers call it fine gravel) to one part of cement. It only requires to be damp enough to work well. It should be thoroughly mixed, all at one time, and be lowered into the cistern quickly and spread more rapidly with a shovel or hoe, and should be beat down hard and smooth.

Upon this bottom foundation the cistern should be walled up with brick or stone in cement to at least 6 inches above the top of the ground, which will keep all surface water out. For finishing the bottom use one part cement to one part sand; this is thoroughly mixed while dry, and then water should be added until it is like plastering mortar. Dump it on the bottom about 3 inches thick and smooth with a trowel. It will soon be hard as stone. For the sides of the cistern, which should be done before finishing the bottom, use equal parts of sand and cement and apply quickly as you would plaster a wall. It is not safe to use anything but the best Portland cement, which costs about \$3 a barrel.

Uncle Sam's Slim Land Reserve.
The time when a man might move westward and take up virgin soil at his pleasure has passed, and, in general, it may be said that the son of the farmer of to-day must look for his sole heritage in the land his father holds. It is now a barren boast that "Uncle Sam has a farm for every one of us." In 1906 we had less than 90,000,000 acres of unoccupied habitable land. What a slim reserve that is may be realized from the fact that one-fourth of it was disposed of in the following year. We cannot add to our agricultural areas except by irrigation and drainage, but we may, by intelligent selection of crops, by scientific cultivation and by careful treatment of land, make it produce three or four times as much as it does at present. And this is the direction in which our development should proceed, for we must find room within the next 30 years for a doubled population according to our undiscerning ideas. The American farmer of the future must be a man of broad mind and technical knowledge.

Put Humus in the Soil.
If your soil needs humus, plow under all the coarse manure you can get this fall. Every farmer realizes the necessity of having more manure, and one way to secure it is by providing an abundant supply of absorbing material. Even if there appears to be a large proportion of this material in the manure, making it straw and coarse, it can be plowed under and will answer an excellent purpose. Every effort should be made to secure all the manure that is made on the farm, so that nothing shall be lost. This manure, properly applied on the meadows, should be worth \$1 per two-horse load in the extra amount of hay that will thus be secured from its use.

Practical Poultry Work.
To stop hens from eating eggs put a little vinegar or something sour in their food.
Drop a piece of alum in the drinking water every two or three weeks; it will prevent throat and lung disease.
For all cuts, wounds and ulcers use listerine. Nothing is better for a comb injured in fighting or for any raw surface.
If you have not already done so, cull out all surplus stock. Do not waste feed on birds that are of no value to you.

Clover and Timothy.

The Missouri station has conducted very careful experiments in steer feeding, using different kinds of roughage. These experiments show that, as an average result, a bushel of corn with timothy hay produced 4.93 pounds of grain, while the same amount of corn with clover hay produced 6.58 pounds. Rating the gain at the low price of five cents per pound, the feeder gets something more than eight cents per bushel for his corn when he feeds it with timothy. Put the hay away having in mind to feed the clover to the steers and to all growing and all milch animals, and to sell the timothy. Good—real good—clover hay is as good for work horses as timothy. If you don't believe it, try it out. But the clover must be cut early enough—when the heads have just become real red—and handled without much rain or dew, and not be overcured—that means the use of the best haying machinery. Incidentally, the use of the best haying machinery means hay at less cost for the making.—Weekly Witness.

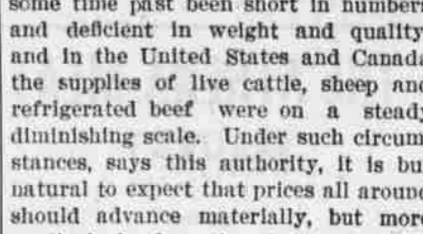
To Advance Agriculture.
With the \$15,000,000 the United States Department of Agriculture has available for this year's use considerable progress should be made in agricultural advancement. While all lines of work are to be carried out as usual, most attention will be given the forestry service. Forestry is one of the more important problems now before the American people and it is but proper that it should receive first attention. The Department of Agriculture is doing a good work. There are those who belittle its efforts and claim the money given annually for its support is wasted, but much of the standing agriculture enjoys to-day is due to this division of the government. Let the good work go on.—Exchange.

Dear Meats in England.
The London Meat Trades Journal in an editorial says the retail prices of meats have made a substantial advance in that country. It is pointed out that the supply of native-bred stock has for some time past been short in numbers and deficient in weight and quality, and in the United States and Canada the supplies of live cattle, sheep and refrigerated beef were on a steady diminishing scale. Under such circumstances, says this authority, it is but natural to expect that prices all around should advance materially, but more particularly for the choicer grades. From these reports it seems that the United States is not alone in the matter of high-priced meats.

Argentina Animal Statistics.
Consul General Alban G. Snyder sends from Buenos Ayres a tabulated list from a report just issued by the minister of agriculture showing the numbers of live stock in Argentina. They total 114,842,440, divided as follows: Cattle, 25,844,800; sheep, 77,581,100; horses, 5,462,170; mules and donkeys, 545,870; goats, 2,566,800; pigs, 2,841,700.

The province of Buenos Ayres contains one-half of the live stock of the republic, having 7,000,000 cattle and 48,000,000 sheep. Entre Rios province has 9,006,300 animals, Corrientes 7,911,000, and Cordoba and Santa Fe each nearly 7,000,000.

Lines For Three Horses.
In using three horses try this way of arranging the lines: Take a pair of old single harness lines and make two cross lines a little longer than the reg-

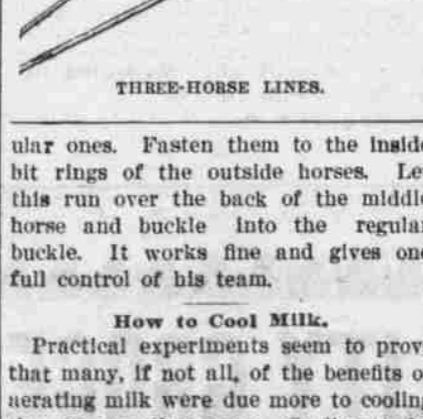


THREE-HORSE LINES.

ular ones. Fasten them to the inside bit rings of the outside horses. Let this run over the back of the middle horse and buckle into the regular buckle. It works fine and gives one full control of his team.

How to Cool Milk.
Practical experiments seem to prove that many, if not all, of the benefits of aerating milk were due more to cooling than to any other cause. Cooling to the same degree will accomplish substantially the same results, but without an aerator it may be difficult to reduce the temperature as rapidly, hence the aerator may be considered an advantage unless a patent cooler is used.

THE WEEKLY HISTORIAN



HOT-WEATHER FACE.

HOT-WEATHER HINTS.
Avoid black clothing. It draws the heat.
Above all, avoid anger. Keep your temper.
While eating less don't forget to take plenty of exercise.
Avoid alcohol. Total abstinence is best, sparing use of liquor injurious.
Easy shoes help to preserve the temper and keep down the temperature.
Remember, as little meat as possible. Vegetables and cereals are the best.
An inveterate foe to comfort in warm weather is the ice water so universally used.
Persons often complain of suffering from heat when an overloaded stomach is the only trouble.
Thin, loose, unlined garments of light color go far toward insuring comfort and health in summer.
If a child has any intestinal trouble milk often acts as an actual poison. Cereals should be used instead.
The white stiffened linen or canvas ventilated hat is the proper headgear. Stanley, the explorer, said that the derby was an abomination and the straw hat not much better.

THE WEEKLY HISTORIAN



- 1174—William the Lion defeated at Alnwick.
- 1350—The elector of Brandenburg was appointed hereditary arch-chamberlain of the German empire by the golden bull of Charles IV, and in that capacity he bore the scepter before the Emperor.
- 1708—English and allies under Duke of Marlborough and Prince Eugene defeated the French besiegers at Oudenarde, Belgium.
- 1776—The statue of King George III Bowling Green, New York, destroyed.
- 1770—Stony Point taken from the British by the Americans.
- 1780—The United States and Morocco concluded a treaty of peace.
- 1799—Aboukir in Egypt attacked and carried by assault by the Turks under Saïd Mustapha Pasha.
- 1804—Famous duel between Hamilton and Burr.
- 1812—Sweden concluded an alliance with England.
- 1829—The directors of the Bank of the United States declared a dividend of 3½ per cent.
- 1839—Chartist riot in Birmingham, England.
- 1840—Treaty of London between the Sultan and Mehmet Ali.
- 1849—Vice President Millard Fillmore assumed the presidency of the United States.
- 1862—Gen. Halleck appointed commander of all the land forces of the United States.
- 1863—United States ship Wyoming sank three Japanese ships in battle at Shimonoseki.
- 1873—Communist rising in Spain.
- 1883—Chilians defeated the Peruvians with great loss at Huamachuco.
- 1884—Democratic national convention nominated Cleveland and Hendricks.
- 1885—International park at Niagara Falls opened.
- 1880—Charles D. Graham went through the Niagara whirlpool rapids in a barrel.
- 1890—The President signed the Wyoming admission bill... Wyoming territory became a State.
- 1894—Earthquake at Constantinople, with loss of 200 lives.
- 1895—Gen. Nicola Piorola elected President of Peru... Henry M. Stanley elected to the British Parliament.
- 1898—Admiral Cervera and other officers of the Spanish fleet reached Annapolis, as prisoners of war.
- 1902—Mine disaster at Johnstown, Pa., resulted in loss of 114 lives... The Porte demanded the suppression of Cretan money with Prince George's effigy.
- 1903—Cuban Senate ratified the treaty giving the United States coaling and naval stations on the island.
- 1906—Dreyfus finally acquitted by the court of cassation... The seventy-fifth anniversary of Belgian independence celebrated in Brussels.
- 1907—Ten persons killed by an explosion in a turret of the battleship Georgia... Seven persons killed by the collapse of a building in London, Ontario.