

First Maker of Lucifers.
 Sir Isaac Holden, who recently died in England at an advanced age was famous in science and invention. He was the son of a collier, but his invention and enterprise brought him a splendid fortune. He retired from parliament in 1895. He has the reputation of having, among other useful inventions, been the first man to make lucifer matches. Sir Isaac had a method of his own in regard to eating and drinking. For breakfast he partook of a baked apple, one orange, a bunch of grapes and a biscuit made from banana flour. His midday meal consisted of very little beef or mutton, with now and again a small cupful of soup. If he partook of fish, he had so much less of meat. For supper he practically repeated his breakfast menu. "After the system has been built up, and the period of manhood reached, all starch foods should be banished from the human diet." Such was the creed of this good, quaint old man and generous philanthropist. An absolute teetotaler he was not, and Yorkshire will be as proud of him as it was of Sir Tatton Sykes, who lived on ale and apple pie. Sir Isaac's son Angus inherits the title. He represents the Buckrose division of Yorkshire in Parliament.

HERE BUNDLES OF NERVES.
 Some peevish, querulous people seem mere bundles of nerves. The least sound agitates their sensoriums and ruffles their tempers. No doubt they are born so. But may not their nervousness be ameliorated, if not entirely relieved? Unquestionably, and with Hoelter's Stomach Bitters. By cultivating the digestion and insuring more complete assimilation of the food with this admirable corrective, they will experience a steady and very perceptible gain in nerve quietude. Dyspepsia, biliousness, constipation and rheumatism yield to the Bitters.

At the last congress of German Vineyardists Prof. Wortman reported that he had found living bacteria in wine which had been bottled 25 or 30 years.

AN OPEN LETTER TO MOTHERS.
 We are asserting in the courts our right to the exclusive use of the word "CASTORIA," and "PITCHER'S CASTORIA," as our Trade Mark. I, Dr. Samuel Pitcher, of Hyannis, Massachusetts, was the originator of "PITCHER'S CASTORIA," the name that has borne and does now bear the fac-simile signature of CHAS. H. FLETCHER on every wrapper. This is the original "PITCHER'S CASTORIA" which has been used in the homes of the mothers of America for over thirty years. Look carefully at the wrapper and see that it is the kind you have always bought, and has the signature of CHAS. H. FLETCHER on the wrapper. No one has authority from me to use my name except The Centaur Company of which Chas. H. Fletcher is President.
 March 8, 1897. SAMUEL PITCHER, M.D.

The Central London Underground railway, which is to be operated by electricity has a large contract for electrical equipment with a prominent New York firm.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure by local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and therefore requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, O., is the only constitutional cure on the market. It is taken internally in doses from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address, F. J. CHENEY & CO., Toledo, O. Sold by druggists.
 Hall's Family Pills are the best.

A postoffice clock in Sydney, New South Wales, emits an electric light flash lasting five seconds every hour during the night, thus enabling those living miles away to ascertain the exact time.

Piso's Cure for Consumption is the best of all cough cures.—George W. Lotz, Fabacher, La., August 28, 1885.

Alexandria, Va., has raised the ban which from the earlier days of the settlement made it unlawful to bring in oysters between April and September.

Between 1878 and 1881, in a single Roman village district, 797 heads of families in a population of 1,200 families were dogged for not paying their taxes.

An Angora cat, which by accident was locked in a trunk under some clothing at Tullahoma, Tenn., remained there for seven days and revived when taken out.

NERVOUS PROSTRATION.
 "Will you kindly allow me," writes Miss MARY E. SAIDT, of Jobstown, N. J., to Mrs. Pinkham, "the pleasure of expressing my gratitude for the wonderful relief I have experienced by taking your Compound? I suffered for a long time with nervous prostration and general debility, caused by falling of the womb. It seemed as though my back would never stop aching. I could not sleep. I had dull headaches. I was weary all the time, and life was a burden to me. I sought the seashore for relief, but all in vain. On my return I resolved to give your medicine a trial. I took two bottles and was cured. I can cheerfully state, if more ladies would only give your medicine a fair trial they would bless the day they saw the advertisement, and there would be happier homes. I mean to do all I can for you in the future. I have you alone to thank for my recovery, for which I am very grateful."

CHERRY BLOSSOM FOR RHEUMATISM.
 RHEUMATISM AND ALL THE AILMENTS OF THE BONES AND JOINTS. It is the best remedy for Rheumatism. Twenty-five cents a bottle. It is the best of all.

FACTS FOR FARMERS.

HELPFUL SUGGESTIONS FOR THE AGRICULTURISTS.

Description of Two Ways of Tying Corn Fodder Shocks—A Convenient Feed Rack for Cattle—Device for Ditching in Insecure Soil.

Good Corn Ties.
 The Rural New Yorker describes a corn tie as shown in the center illustration. To make it, set a short length of iron rod about three-fourths of an inch in diameter into a block of wood, or wherever convenient, so that it will be firmly fixed with, say, three inches projecting free. Alongside, with just enough space between to allow a No. 10 steel wire to pass freely, drive in a stout nail all but about half an inch. With this apparatus bend a length of No. 10 steel wire into a succession of circles or loops three inches apart, and then, with the aid of a cold chisel, cut through the center of each three-inch space and divide it into as many sections as there are circles, each section consisting of a circle with a 1/4-inch arm extending from each side in a



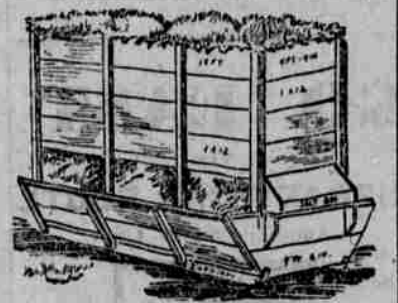
TWO CORN TIES.

straight line. The cord is to be knotted around the circumference of the circle, where the wire intersects. In applying it around a shock of corn it is drawn tightly and the loose end of the cord is then passed around the arms in a figure 8 and tucked under the band.

Another plan is given by a farmer, who writes: Into a large block of hard wood I drive three 20-penny wire nails after removing the heads, as shown at Fig. 2. Then insert one end of a piece of wire between the two spikes at A, which should be just far enough apart to admit the wire. Bend the wire around the outside one at A, and then continue through between the center spike and B, then around B and toward the center spike again. Then cut it off at that point, and we have a book like the one shown at Fig. 3.

Feed Racks.
 In the southern belt of this country cattle need little shelter in winter. In the middle belt they need a stable for severe weather, but for their own health should be allowed outdoors when the temperature is moderate. That is the lending idea of the Kansas stockman who devised the feed rack shown in the illustration. In addition to corn the Kansas stockman feeds his cattle hay, roots, sorghum and alfalfa, thus giving the variety so necessary to man or beast.

In the Breeder's Gazette the manager of the Kansas stock farm describes the rack as follows: We named it an ark because it looked a little like a boat and can be moved from one place to



RACK FULL OF FODDER.

another. By hitching a team of horses on one end it can be moved very easily. The 18-foot ark holds 1,000 pounds of hay or one ton of sorghum. We make them 16 and 18 feet, but prefer the 18-foot, as it can be made cheaper. The framework is made mostly out of 2x4 plank, except the runners, which are 2x6. These racks have been used at Sunny Slope for four years, and have been the most satisfactory of any we have seen.

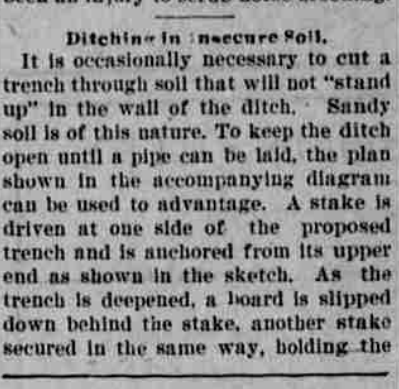
The Secret of Wealth.
 Here is a German legend of an old farmer calling his three idle sons around him when on his deathbed, to impart to them an important secret. "My sons," said he, "a great treasure lies hid in the estate which I am about to leave you." The old man gasped. "Where is it hid?" exclaimed the sons in a breath. "I am about to tell you," said the old man; "you will have to dig for it—" But his breath failed him before he could impart the weighty secret, and he died. Forthwith the sons set to work with spade and mattock upon the long-neglected fields, and they turned up every sod and clod upon the estate. They discovered no treasure, but they learned to work; and when the fields were sown and the harvest came, lo! the yield was prodigious, in consequence of the thorough tillage which they had undergone. Then it was that they discovered the treasure concealed in the estate, of which their wise old father had advised them.—David Summers.

Flax an Exhaustive Crop.
 Some Western farm journals are wondering why flax is not more grown than it is. The reason is that it is a very exhaustive crop, and can only be grown profitably where fertility is lit-

tle regarded, or where there is good market for both fiber and seed. It is a good sign for Western farmers that flax-growing as it was practiced a few years ago is going out of their farm rotation. The stalk and fiber was always thrown away. Only the seed was marketed, and this sold so low that the raw seed, or, better still, flaxseed meal, was one of the cheapest fertilizers that can be used. Not until we have mills for making linen cloth and conveniences for separating the fiber from the stalk will flax-growing be profitable in this country. When both seed and fiber can be sold, the crop will pay for the heavy manuring it requires to keep the land fertile.—Exchange.

Live Stock Notes.
Vaseline is a fine remedy for sores on the horse.
 The swill barrel on wheels is a great convenience.
 Harness that is crusted with sweat and dirt should be cleaned.
 Soaked corn, instead of meal, may be fed to the pigs during summer.
 Feed the pigs when weaned one-third corn meal and two-thirds shorts.
 The horse that works six days in the week earns a rest on the seventh.
 Ill-fitting harness is to the horse like an ill-fitting, pinching garment to a man.
 It is claimed that hogs will eat soja bean hay as eagerly as a cow will eat clover hay.
 Pigs that do not have enough good milk will be stunted. Feed the sow bountifully.
 Keeping a horse on corn alone in summer is like building a fire in the parlor stove in August.
 Cow peas, unless wanted for pasture alone, should not be planted on rich or naturally moist ground.
 Ground wheat, mixed with milk, pretty thick, or as thick as will pour, makes excellent feed for the pigs.
 The bicycle has undoubtedly injured the livery business and consequently been an injury to scrub horse breeding.

Ditching in Insecure Soil.
 It is occasionally necessary to cut a trench through soil that will not "stand up" in the wall of the ditch. Sandy soil is of this nature. To keep the ditch open until a pipe can be laid, the plan shown in the accompanying diagram can be used to advantage. A stake is driven at one side of the proposed trench and is anchored from its upper end as shown in the sketch. As the trench is deepened, a board is slipped down behind the stake, another stake secured in the same way, holding the



PLAN FOR DITCHING.

other end of the board. As the trench is deepened, the board is pressed down, and another added above it, the stakes also being driven down and so on till the required depth is reached. The same plan will probably have to be used on both sides.

Clover.
 It is often a saying among farmers that clover rarely succeeds when sown on a newly turned clover sod. The saying had its origin in the days when plowing under clover was the usual preparation for wheat sowing. If the plowing was early enough for the clover to be entirely rotted, the clover seed grew readily enough. But if the first crop of clover was cut off and the sod was plowed late, so as to let the second growth attain good size, there would invariably be failure of the clover catch next season. Clover does not do well if sown on any kind of a sod. The reason is that newly turned sod holds the furrow up, and as it rots down the soil above naturally falls, leaving the clover above it to perish. The young clover plant has at first a very slender root on the soil. Any falling down of the soil leaves it high and dry in the air, and, of course, is fatal to it.—American Cultivator.

Fall the Best Time for Tree Planting.
 "Early fall is an excellent time for planting trees," writes Thomas Meehan in the Ladies' Home Journal. "By early is meant as soon as the wood is ripe and the winter buds fully formed. This is usually a month before the regular fall of the leaf. The leaves are stripped by hand. After the wood is ripe the leaves are taken off by Jack Frost, the wind or the human hand. In the eastern part of Pennsylvania this would be usually about the first of September, and the work of planting can be kept up during October, and often to November or December. But late fall planting in cold climates is as risky as late spring planting. The moisture is dried out by cold winds or hot suns before the new fibers are formed to replenish the great evaporation. In milder climates planting may be a success all winter."

Plenty of Strings.
 The farmer who produces oats, wheat, barley, corn, buckwheat, hay, clover seed, potatoes, apples, honey, butter, eggs, poultry, wool, mutton, beef, pork, beans and sorghum has a good many strings to his bow, and it would be an extreme condition of things that would make him hard up.

Tires and Roads.
 Broad tires and good roads fitly belong together. Narrow tires, heavy loads and wet weather will ruin the best dirt roads that may be constructed. On the farm broad tires should be used on wagons that bear heavy burdens. Roads and fields have been badly cut up by narrow tires.

A GIANT PUMPING PLANT

Packer's Great Irrigation Enterprise a Success.

Hundreds of Acres of Wheat Land Along the Sacramento River Supplied With Water.

Pumping plants have been so improved in the last few years as to lead one to hope that in that direction lies the solution of the irrigation question. George F. Packer, although considered one of the most conservative men in the county, has led off in a number of things. Some years ago he checked off some land and put in a flume for winter irrigation and planted alfalfa. He made a survey himself to determine the practicality of taking the water out of the river below Stony creek to water the river lands, and wanted the co-operation of some of the farmers to build the canal. He opposed both the Colusa and the Central districts because he did not believe in that plan—and time has shown that he was wiser in that than many of us. He wanted to know who was to manage.

Again he comes to the front. The Hercules Gas Engine Works of San Francisco has just completed, on his



home place, the largest gasoline pumping plant in existence, which will be used for pumping water from the river with which to irrigate several hundred acres of land.

This plant consists of an 80-horse power, horizontal single cylinder, Hercules engine and a Krogh Manufacturing Company's 15-inch centrifugal pump, guaranteed to raise 6,000 gallons of water per minute 27 feet high. There is also a smaller pump of 400 gallons a minute capacity driven by the same engine. This is for tank purposes.

The engine is arranged to use either gasoline or distillate oil, and as the latter is very cheap it will no doubt be the fuel selected for use. The 20-inch suction pipe, made of No. 10 steel, passes through the levee, on an incline, into the river, and at its lower end is a large foot valve weighing 1,200 pounds.

A 20-inch discharge pipe carries the water from the pump to a head box 22 feet square and 6 feet high. For the foundation of the machinery an excavation was made and filled with concrete. The first test made showed a much larger pumping capacity than the contractor called for, the flow of water exceeding 7,200 gallons a minute or 432,000 gallons an hour, or 10,368,000 gallons per day of 24 hours—enough water to cover 384 acres an inch deep, or 38 acres 10 inches deep every day of 24 hours.

A very important part is the exceedingly small cost of the fuel, it being only one-eighth gallon per hour for each horse power actually used, and

the price of the fuel is less than 10 cents a gallon. If the whole force should be used, there would be only eight gallons an hour, or less than 200 gallons a day of 24 hours. The fuel item then is less than \$20 for covering 38 acres 10 inches deep with water—or less than 60 cents an acre. If used for wheat, one sack to the acre will pay all the expenses of putting 10 inches of water on it just as it is wanted most.

This pumping plant, destined to revolutionize agriculture in the Sacramento valley, was put in operation Friday, August 6.

Early in the morning a party of Colusians drove to the ranch of Mr. Packer, which is on the river below Princeton, to see the great pump make a trial of its strength. The air was cool and the drive most pleasant, though dusty. Arriving, they found the engine placed in a concrete oblong, square basin, sloping towards the cut in the levee that leads to the river and the great 28-inch iron pipe extending from a 22x22 foot reservoir down the concrete basin, on through the cut in the levee and river bank into the water. The machinery was all clean and bright and G. W. Tibbets and Arthur Pope were on hand to put it in motion. John E. Doak of San Francisco, having the work in charge, was there, and as the engine started, the great belts moving

slowly at first, and increasing in velocity, the water began to come with force into the reservoir. It gushed for awhile, when one of the smaller parts of the engine became clogged, and it was stopped for arrangement. Just then, as all stood still, there was a splash and a wild shout came from those who had climbed upon the edge of the reservoir. All rushed up and found Mr. Stioe, of Red Bluff, who is here buying fruit, floundering around in the water, having lost his balance and tumbled in. There was much merriment at his expense, and it had a healthy action on the crowd, bringing laughter and good will all around.

Again, the engines started, and forcing 7,200 gallons to the minute, the great reservoir was soon overflowing, and all pronounced it the grandest of successes.

The success of Mr. Packer's enterprise will show conclusively that it will be immensely profitable to irrigate even wheat lands that are at all favorably situated. Who would not give a sack of wheat an acre for the privilege of 10 inches of water at will? It would make a difference, one year with another, of five to ten sacks; there need be no summer-fallowing. A certain crop every year. But then there comes in a more profitable crop—alfalfa and sugar beets.

This plant was put in for Mr. Packer for \$3,500, but the head of the company informs us that this was an inducement and that another would come higher.

—Colusa Sun, August 6, 1897.

One advertisement ought to make you say to your grocer:
 "Give me a package of Schilling's Best tea, if you can really afford to return my money when I don't like it."

A Schilling & Company San Francisco 805
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 Plow and Seeder Combined.
 Thoroughly works the soil to a depth of 6 to 8 inches.
 Leaves no Plow Crust.
 Places the seeds 4 to 4 inches down, thoroughly covered with light, loose soil.
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Dr. Sanden's Electric Belt.
 "It is now about 60 days since I commenced wearing your Belt. I have improved greatly; have gained 20 pounds in 45 days, and my health is much better than it has been for five years. I bought the Belt two months ago for dyspepsia, kidney trouble and general weakness, and words will not describe my feelings in regard to your Belt. I want to say that I would not part with my Belt for twice what it cost, provided I could not get another one."
 Chas. Wilson, Coos Bay, Athol P. P., Idaho, August 11, 1897.

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