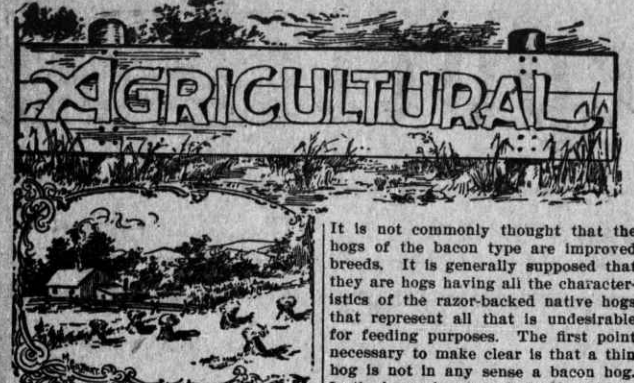


Use of a Syphon.

A syphon may be used for raising water over an elevation of twenty-four or twenty-six feet, but no more. The principle of the action of the syphon is this: The atmospheric pressure on any surface is equal to the weight of a column of water thirty feet high. So that, in a vacuum, when the air is exhausted, a column of water thirty feet high will rise by the pressure of the air on the source of supply to it. Thus a pump, made air-tight, will draw water out of a well thirty feet deep, if there is no loss by friction or leaking of air. But to allow for as much of these as cannot be avoided in practice, a fairly good pump will raise water twenty-five feet. Now, if we arrange a bent pipe as in the diagram, and draw the water over the hill to the outlet by a pump attached to it, and then remove the pump, the water will continue to flow in spite of obstacles over a hill or elevation of twenty-five feet. This is because the longer column of water in the outlet pipe draws the water over the hill, for the reason that as the water flows from the lower end of course it makes a vacuum or

SYPHON IN USE.

empty space on the other end of the pipe in which there is no air, and the pressure of the air on the water of the spring instantly compels the water to flow up the pipe and over the top and down to the outlet. So that if the well is not over twenty-five or twenty-six feet deep, and the outlet of the pipe is more than this, the water will continue to flow, once it is drawn over the elevation. But, as water always has some air dissolved in it, and this escapes as the water flows up the pipe, it collects at the top, and, in time, makes a large bubble, which stops the water, until the air is got out and a new start is made. This is done by filling the pipe at the place marked at the top, closing each end by taps provided for this, and then starting the flow again.

Grow More Corn.

The farmers who are feeding out timothy hay, and seeing their neighbors selling load after load of it at a good price, while their cattle are kept in good condition and their cows are giving more milk on corn fodder than those do that are eating high-priced hay, must feel like asking some one to kick them now, and then come around and kick them again next spring until they promise either to plant corn or sow corn in drills and save the fodder for next winter's use. Yet this is but one small part of their loss. Those who had a plenty of corn fodder to use during the dry time last summer kept their cows up to full milk production then, and began the fall with them in much better condition than were those that had to depend upon the pasture alone, and thus they will have more milk every day and milk more days this winter than those who trusted to the grass crop alone. Yet not one-half the latter will be much more ready to look ahead next spring than they were last spring. —American Cultivator.

Poultry House.

The poultry-house plan here shown has been found very satisfactory in large flocks. Each apartment is intended for a separate flock, and will accommodate twenty fowls, which is as many as may be safely kept to begin with. After one has gained experience fifty fowls may be kept in a house of the right size. The house is twenty feet long, eight feet high in the front, and five in the rear, and fifteen feet wide, which gives room for twenty fowls in each house. These houses may be built in a row of as many as may be desired, giving a wire fenced

GOOD POULTRY HOUSE.

yard for each flock, with an open shed which may be used in the summer for the birds to roost in. If this house is made tight by a tar-paper lining, it will be sufficiently warm for the winter. No floor is required; the earth, if it is dry, will be the best; but this should be well covered with coarse sand or sawdust.

The Bacon Type.

The fact that few understand the type of hog which the bacon market requires has perhaps been the main reason why it is generally accepted that it costs more per pound to raise a hog of the bacon type than one of the lard type. It is not commonly thought that the hogs of the bacon type are improved breeds. It is generally supposed that they are hogs having all the characteristics of the razor-backed native hogs that represent all that is undesirable for feeding purposes. The first point necessary to make clear is that a thin hog is not in any sense a bacon hog. In the bacon hog it is desirable to have about one and a half inches of fat with an abundance of lean flesh in the carcass. It is flesh, muscle or lean meat that is desirable and not in any sense a thin carcass. An important point among the desirable characteristics of the bacon hog is that of form. The side should be as long as possible, with great depth, and levelness from shoulder to hip should be the leading characteristic. The shoulder should not bulge out and the hams should not be pendant and plump as in the case of the lard hog. If a straight edge is laid along the side of the typical bacon hog it should touch every point from the start of the shoulder to the end of the hind quarter.

Horse Talk.

Horse-breeders have every reason to feel joyous over the demand for good horses, both at home and abroad.

The great complaint of the dealers is that they find it difficult to keep up to the demand.

Those who breed and handle good horses will have a long period of prosperity.

Go out to the fairs and shows and some good, large markets, and see what is called for, and you will be cured of breeding scrubs, and your eyes will be opened.

One of the best devices I know of is the safety strap attached to the ends of the shafts.

Take a screw-eye and put it exactly in the middle end of each shaft. Sew or rivet a half-inch strap in each eye and join them in the middle with a buckle. When your horse is hitched up, buckle this strap and you will find it impossible for him to catch the rein under the shafts or to run the shafts through the ring of the bit. It is invaluable in fly-time, or in breaking colts. Once used you will have them on every rig.

Wise horsemen employ less of corn or meal and more of oats in warm weather.

Horse stalls should be either four or six feet wide. If five feet the animal is likely to get fast. Four feet is too narrow to get fast and six is wide enough to freely roll in. Have the stalls wide if possible, for your horses, like yourself, will work better after a comfortable rest.

Thoroughbred Stallion.

The thoroughbred stallion Royal Mask, the property of Mr. Edward Mitchell, Derryvullen, Enniskillen, Ireland, is a 10-year-old chestnut, bred

ROYAL MASK.

by Mr. R. T. Beddington, got by Mask, dam Princess Victoria by Prince Charlie. He won first prize and Croker challenge cup at the Royal Dublin Society's show last month. From his shape as well as his bone and substance he well fulfills the conditions as a weight-carrying hunter sire.

Improve the Home.

If improved financial conditions on the farm have cleared the owner of all indebtedness and left a surplus, such surplus by every right should be used first to improve the conditions of the farm home—to secure some of the comforts so long wanted. Give mother $150 and tell her to put it where it will do the most good, get a new surrey to go to kirk in, and with it get a light harness for the team, for Norman horses, plow harness and surrey don't match well. Take a trip off with your wife and don't go in a suit of $8 ready-made either. Paint the house and put on a new porch and fix the windmill so that you can have a system of waterworks in your home. Send those two boys to a commercial school this winter and pay their bills, and put $15 or $20 into good papers and magazines. Entertain your friends and in a general way live so as to get the worth of your money and enjoy life.

Fertilizers for Small Fruits.

A number of brands of fertilizers have been prepared by the different manufacturers, especially for the small fruits, and 1,000 to 1,500 pounds per acre will give good results. For those who desire to prepare their own mixtures, however, the Michigan station recommends 100 pounds of nitrate of soda, 800 pounds of ground bone and 100 bushels of wood ashes or if these cannot be obtained 400 pounds of potash salts, either muriate or sulphate.

SOUVENIR OF A TRAGEDY.

Lorgnette Presented to a Senator's Wife by Booth.

The daughter of a United States Senator has a lorgnette which was presented to her mother by J. Wilkes Booth. The story, which is now printed for the first time, is as follows:

Booth rented a room the night before the assassination in the Washington Hotel, where Henry Clay died. The house was crowded with guests, and the corridors after dinner were filled with women of note and beauty. Booth, who was fond of admiration, commingled with the assemblage, and was presented to many. He carried a handsomely mounted lorgnette which a Senator's wife complimented. She knew the Booth family, Edwin Booth having been a guest at her home. This fact was sufficient warrant for J. Wilkes Booth to be unusually gracious, and when the Senator's wife admired the actor's lorgnette he begged the favor of presenting it to her. The following night occurred the tragedy. In the preliminary investigation which followed the Senator's wife and another woman who was with her the evening she met Booth were subjected to a most rigid inquiry as to Booth's manner.

The daughter of the Senator's wife, now a prominent society woman of her home, tells this story in connection with the investigation:

"My poor mother was questioned and cross-questioned by a lawyer and a detective touching her meeting with Booth. But she was unable to give them any information concerning Booth's manner except that he was gallant. Hard as they tried to learn anything from her, she could remember nothing showing that Booth contemplated crime, nothing indicating that he ever thought of such a thing. He was in a jovial mood and spoke of some future events with confidence. I do not think my mother ever quite recovered from the effects of the incident. She kept the lorgnette for some years, never using it, however, and finally she presented it to me. I am not superstitious, but I have never yet tried to use this lorgnette that something unusual did not occur. The first night I carried it my horse had an accident which made us late in arriving at the theater, and when we got there we found the play postponed. Once it was misplaced and suddenly turned up. On another occasion it was loaned to a friend, who was taken ill in her box and nearly died before she got home. I still have it, but I have never used it, although I mean to some day."—Philadelphia Item.

A Rattlesnake Trap.

Rattlesnakes were the most dangerous wild animals with which the early settlers of New Jersey had to contend. They were very numerous, and their bite, if not treated properly at once, was generally fatal. In "Stories from American History" F. R. Stockton cites an incident which gives an idea of the abundance of rattlers in the new colony.

In a quarry, from which the workmen were engaged in getting out stone for the foundations of Princeton College, a wide crack in the rocks was discovered, which led downward to a large cavity; and in this cave were found about twenty bushels of rattlesnake bones.

There was no reason to believe that this was a snake cemetery, to which the creatures retired when they supposed they were approaching the end of their days; but it was, without doubt, a great rattlesnake trap.

The winding, narrow passage leading to it must have been very attractive to a snake seeking retired quarters in which to take its long winter nap. Although the cave at the bottom of the great crack was easy enough to get into, it was so arranged that it was difficult, if not impossible, for a snake to get out of it, especially in the spring, when these creatures are very thin and weak, having been nourished all winter by their own fat.

Thus year after year the rattlesnakes must have gone down into that cavity, without knowing that they could never get out again.

When Juba Hit It.

"After having supplied a moonshiner in a South Carolina jail with a month's supply of smoking tobacco," said a government surveyor, "I presumed upon the deed to ask:

"'Didn't you know it was against the law to manufacture moonshine whisky?'

"'I heard that was a law once,' he replied.

"'What do you mean by once?'

"'Why, Juba French told me thar was sich a law, but when I asked Jim Truman about it he says that Juba is sich a liar that nobody kin believe him under oath, and so I reckoned I was safe to go ahead. Shoo, but I wonder how Juba come to tell the truth fur that one time!'"—Washington Post.

Unmarried Men and Women.

Taking the Australian colonies in the aggregate, there are only seventy-five unmarried females for every one hundred unmarried males. In New South Wales alone, according to the last census, there are nearly 100,000 more unmarried males than unmarried females; in Victoria the excess is upwards of 75,000; in Queensland it is almost 57,000; in Southern Australia, over 17,000; in Western Australia, 9,000; in Tasmania about the same; and in New Zealand, a little less than 44,000.

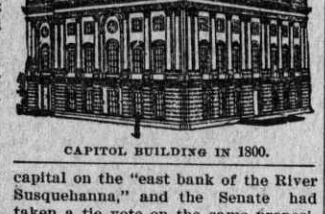
Or Start an "Ideal" Daily Paper.

She—"Just imagine! Suppose you were so immensely wealthy that you couldn't possibly spend your income. What would you do?"

He—"Marry you."—Harper's Bazar.

It takes two to make an agreement—and a lawyer to get the best of it.

IT took more than ten years of hard and bitter fighting in Congress to fix the location of the national capital at Washington, the centennial of which action was recently celebrated. Several times during that period of struggle it seemed certain that the "Federal City" would be located elsewhere. Once such action was prevented only by the casting vote of Vice President John Adams in the United States Senate after the House had passed a bill fixing the location of the



CAPITOL BUILDING IN 1800.

capital on the "east bank of the River Susquehanna," and the Senate had taken a tie vote on the same proposition. On another occasion a bill amended by the Senate so that the seat of national government was fixed at Germantown, Pa., was passed by the House and finally failed of adoption because of an amendment made by the House that the State of Pennsylvania should have control over the national territory until Congress should pass suitable laws for its government. This amendment required further action by the Senate, but in the meantime the Senate had adjourned and the amended bill was never heard of again. By such apparent accidents and by such small chances was the choice of a site for the Federal Government guided. The final selection of "the banks of the Potomac" was the result of a compromise, in which Jefferson played the most important part.

The story of Washington's founding and growth is most interesting. In the year 1788 all there was to show of the Federal capital of the young republic was a provision of the Constitution for the establishment of such a city upon territory outside the limits of all the constituent States. In that year the Legislature of Maryland passed an act "to cede to Congress a district ten miles square in this State for the seat of the Government of the United States." About a year later an act of similar import was passed by the Legislature of Virginia. Meanwhile, the Federal Legislature, sitting in New York, carried on a heated and acrimonious wrangle over the question of a permanent seat for itself and its successors. Eventually it was decided to accept the offer of Maryland and Virginia, despite the most violent opposition in some quarters, and the Senate bill in favor of the proffered site was signed by George Washington, July 16, 1790. The Senate act left a great deal to the President's discretion. The area of his choice extended 105 miles along the serpentine course of the Potomac, from Williamsport to Hagerstown, and it is certain that the final determination was largely due to Washington's own preference. It also rested with him alone to appoint three commissioners provided for by Congress to survey and plot the Federal District, to acquire land by purchase or the accept-

RUIN OF THE NATIONAL CAPITOL AFTER IT WAS BURNED BY THE BRITISH.

ance of gifts, and to provide "suitable buildings for the accommodation of Congress and for the public offices of the Government prior to the first Monday of December, 1800."

Difficulties Encountered.

Everything went smoothly for a time. The lands accepted by the nation from Maryland and Virginia were laid out and sites were chosen for the public buildings, but then trouble arose. Considerable difficulty was encountered when an effort was made to acquire freehold titles to the land required for the public buildings, but patient persuasion overcame all obstacles, and March 30, 1791, nineteen proprietors of the soil signed an agreement conveying their property in trust to the chief executive to be laid off as a Federal city.

Four days earlier than this date Major Peter Charles L'Enfant, one of the soldiers who accompanied Lafayette to the United States and who was named as the engineer to draw the plans, had presented his report to the President. L'Enfant's idea of what the Federal capital should be was much more like what it has now become than the monotonous rectangular block arrangement which seemed good to Thomas Jefferson and other Americans of that day. Some of his opinions were objected to, but he refused to change them, so he was called upon to resign his position, and he was succeeded by Andrew Ellicott, of Pennsylvania.

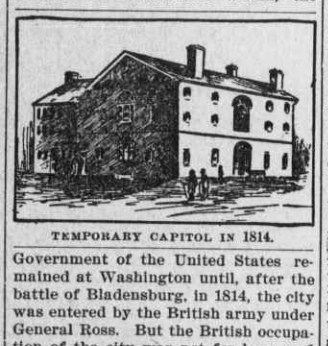
The cornerstone of the Federal District was laid at Hunter's Point on April 15, 1791, and a site was chosen for the Capitol of the United States on Cern Ably Manor, the lord of which was Daniel Carroll. To obtain the best design for the building itself a prize of a city lot and $500 was offered for open competition. The plant was to be sent in before July 15, 1792. The prize was so small that but little effort among competent architects was excited and but seventeen sketches were offered. The plans of William Thornton, a physician of English parentage, were accepted, and the corner stone of the Capitol Building was laid with great pomp and full Masonic ritual Sept. 18, 1793.

The Removal from Philadelphia.

On the first Monday of December, 1800, the Federal Government, Legislature, judiciary and executive, removed from Philadelphia, where it had been seated since 1790, to its new home. The Federal archives and a large number of clerks and subordinate officials were brought round by the river in a coasting sloop and set down at what, with few exceptions, they regarded as a hideous and unwholesome swamp beyond the confines of civilization. Everybody, from the Treasury clerks and their families, up to Mrs. Adams, the President's wife, grumbled and repined at the change. The Capitol was unfinished and made, as they universally complained, a very unfit shelter for the nation's legislators. Of the latter, when Congress assembled, only a few could find board and lodging within the limits of the Federal city itself.

At that time the capital was the butt of much foreign ridicule. Everything about it was but promissary and based on hope, and the streets without end, and almost without houses, suggested to the foreign minister the mocking sobriquet which by the present generation is held in such high favor, "the City of Magnificent Distances."

Nevertheless, in spite of ridicule from without and discontent within, the



TEMPORARY CAPITOL IN 1814.

Government of the United States remained at Washington until, after the battle of Bladensburg, in 1814, the city was entered by the British army under General Ross. But the British occupation of the city was not for long, and Congress held its sittings in the Supreme Court building until a new Capitol should be ready for it.

Its Remarkable Growth.

This, the present magnificent structure, was begun in 1818 and finished sufficiently for temporary purposes nine years later. The cornerstone of the extensions was laid in 1851. After the Civil War began the most glorious period of the Federal city's material prosperity. At that time Washington was by no means a convenient or healthy place to live in, the drainage, paving and lighting all being discreditable. But in 1871 Congress annulled the municipal charter by which the city was governed and placed the District on the footing of a Territory of the United States. Then was inaugurated an era for the better in all the outward aspects of Washington, and since then the thoroughfares, the parks, the public buildings, both Federal and municipal, have increased in dignity and beauty, until to-day it is difficult to realize a condition of affairs at the capital of the United States which would have given subjects of of the older nations occasion for jeering at its squalor and insignificance. The Territorial form of government has since been abandoned, and the government of the whole district placed in the hands of commissioners.

In the Washington of to-day are to be seen some of the most magnificent of public buildings. The Capitol is farfamed for its beauty of architectural design and finish, and the Treasury, the White House, Library and Patent Office are all magnificent examples of architecture. There are a host of fine private buildings, palatial residences, offices, churches, and four great universities, and their value all told is not less than $250,000,000. Right in the city there are 4,689 acres of parks, and three grand wooded districts, with the magnificent buildings, combine to make Washington one of the finest, if not the finest, city in the world, and marvelous when compared with the prospects entertained for it by those whom it was laid out a century ago.

Lunatic on His Dignity.

A story is told of an Irish lunatic who believed himself to be the Deity. What is known as "a woman of inquiring nature" visited the asylum and asked him if he knew all things. He answered, "Yes, madam, I know all that has happened, is happening and will happen." "Then tell me," said the visitor, "shall I be saved or damned?" To her the lunatic, with amazing dignity, said: "Madam, I never talk shop."

Some men spend the last half of their lives discovering mistakes they made in the first half.

A MECHANICAL GENIUS.

San Francisco Lad Who Makes Models of Battleships.

Eddie Von Geldern, a 13-year-old boy, one year ago, after a single hour's inspection of the United States battleship Iowa, went off and executed a remarkable model of the ship, accurate in proportion and delicate in detail, composed of odd scraps and waste picked up about his own home and in his neighbors' back yards. He has now, unaided and untaught, constructed out of odds and ends of materials, with a few odd tools, partly of his own manufacture and contrivance, models of a steam engine and electric car good enough to be exhibited before the Technical Society of the Pacific at its last meeting in Academy of Sciences building, and which commanded the respectful attention of the members of that grave and dignified body.

The steam engine is an elaborate piece of work, perfected, as a model or a sketch, to use the boy's own term, down to some of its finest details. The boiler is made of strips of tin, neatly turned and riveted together, then nailed down to a foundation board, so that they appear, together with a similar strip of zinc at the front, to consist of a series of castings. The sandbrake consists of a metallic tip taken from the end of a discarded curtain pole, and a circular tin can forms the smokestack. The headlight is set in a little box constructed by the boy's deft hands, but for the ornament which caps it he is indebted to his mother's discarded curtain poles. There are steam cylinders with eccentric movements, symmetrical and accurately proportioned, and a whole system of running gear and mechanism beneath, down to the compressed airbrake and hose, all as conscientiously executed as if the lives of human passengers depended upon their being carried out to the finest detail.

In the engine cab the boy has accomplished some of his most patient imitative work, for it is rigged with a throttle and steam gauge, the doors to the boiler and furnace being carefully defined. On one side the engineer's raised seat is carefully padded, and he is even furnished with the usual padded arm-rest on the window, while the bell rope dangles above the fireman's seat opposite. All of the other windows in the cabs are glazed with discarded camera plates. The engine is about three and one-half feet long and of proportionate breadth and height.

The trolley car, four feet long or more, is a less complex structure, but shows the same fidelity, patience and accuracy, and is one of the most honest make-believe cars possible, from the stout wheels beneath, taken out of cord and tackle pulleys, to the trolley, which reaches up to draw power from an invisible wire.

"That trolley was an old bamboo fishing rod once upon a time," explains the young builder gravely. "I had to buy the glass for the windows, for there weren't any dry plates the right size, you see. I've got the advertisements along the top of the wall above them. If you'll look in you can see."

The seats, simulated to represent the rolling curves of the slatted benches extending along the sides of the car, were hacked out with the aid of an old jackknife, and beneath the car, at each end, the boy has built that absolute essential to street cars in every civilized community, safety fenders of as ingenious a pattern as he could devise.—San Francisco Chronicle.

What Frightened Him.

While crossing the Isthmus of Panama by rail, some years ago, the conductor obligingly stopped the train for Mr. Campion to gather some beautiful crimson flowers by the roadside. It was midday and intensely hot. In his "On the Frontier" Mr. Campion tells a peculiar story of this flower-picking experience.

I refused offers of assistance, and went alone to pluck the flowers. After gathering a handful I noticed a large bed of plants, knee-high, and of delicate form and a beautiful green shade. I walked to them, broke off a fine spray and placed it with my flowers.

To my amazement I saw that I had gathered a withered, shriveled, brownish weed. I threw it away, carefully selected a large, bright green plant and plucked it. Again I had in my hand a bunch of withered leaves.

It flashed through my mind that a sudden attack of Panama fever, which was very prevalent and much talked of, had struck me delirious.

I went "off my head" from fright. In a panic I threw the flowers down, and was about to run to the train. I looked around; nothing seemed strange. I felt my pulse—all right. I was in a perspiration, but the heat would have made a lizard perspire.

Then I noticed that the plants where I stood seemed shrunken and wilted. Carefully I put my finger on a fresh branch. Instantly the leaves shrunk and began to change color. I had been frightened by sensitive plants.

Go Wrong.

"My boy," said the great man, "I used to shine shoes myself."

"Well," replied the bootblack, "dey's a hull lot of de guys what is led astray."—Philadelphia North American.

Silk Dresses in China.

Silk dresses were worn in China 4,500 years ago.

Finland Wolves.

Finland loses $27,500 worth of cattle a year by wolves.

It is one of the wonders of childhood that grown people can get up without calling.

Don't dress for show. The thinnest soap bubbles wear the gaudiest colors.