

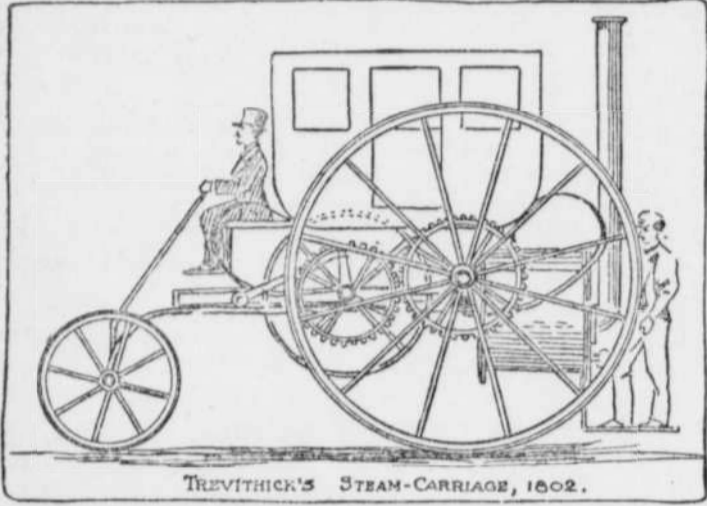
AUTOS OF OLD DAYS OF MANY ODD KINDS

Coiled Spring Vehicle One of the First Efforts at Horseless Carriage.

MACHINES THAT HAD LEGS

France Has Honor of First Using Steam Successfully—America's Pioneers.

Early in the dawn of human intelligence there came the dream of unrestricted, individual locomotion. It was toward the end of the thirteenth century, says R. T. Sloss in his "Book of the Automobile," that the learned Franciscan friar, Roger Bacon, wrote:



TREVITHICK'S STEAM-CARRIAGE, 1802.

"We will be able to propel carriages with incredible speed without the assistance of any animal." At the same time he predicted the coming of the steamship and the flying machine. The scientific character of Bacon's imagination has been completely vindicated in the ocean liners and the swift-flying automobiles and partially so in the recent efforts of Santos-Dumont and others.

The horseless carriage first took tangible form in the seventeenth century, when Johann Hausach of Nuremberg contrived a vehicle propelled by a huge coiled spring, the action being on the principle of clockwork. Hausach was known as "a manufacturer of chariots going by spring and making 2,000 paces an hour." The spring was controlled by a lever in the hands of the chauffeur, and, in the absence of a steering device, the "chariot" could be propelled only in a straight line. Hausach seems to have paid no more attention to the ornamentation of the body of his vehicle than to its propulsion.

Sail Wagons of Holland.
About the same time probably the general utilization of the winds of heaven in the windmills of Holland suggested the idea of "sail wagons," used to some extent on the flat plains of that country. These were called "seylende wadwagen," and consisted of the rigging of a ship attached to wheeled platforms.

In 1644 a patent of Louis XIV. granted to "Jean Theson the privilege of employing a little four-wheel carriage set in motion without any horses, but merely by two men seated." The supposition, in the absence of detailed drawings, is that the "men seated" propelled the vehicle by strenuous leg work.

Sir Isaac Newton is said to have invented a steam carriage after others had conceived the idea of propelling vehicles by steam power. The development along this line followed closely that of the steam railroad. The latter, however, appeared so much more feasible to the inventors that it was followed and the steam carriage idea thrown into the background. Newton's idea was not original fundamentally. It is said, but copied after the original steam engine of Hero of Alexandria, who broke into the steam-



A CLOCKWORK CHARIOT OF THE SEVENTEENTH CENTURY.

line business about 200 B. C. Newton's model was propelled by the reactionary force, or kick, of a jet of steam escaping from a nozzle in the rear.

Early Work in France.
In 1769 Nicholas Joseph Cugnot, with state funds placed at his disposal by the Duc de Choiseul, constructed a steam gun carriage and the following year he produced an improved auto which is still preserved in Paris. The

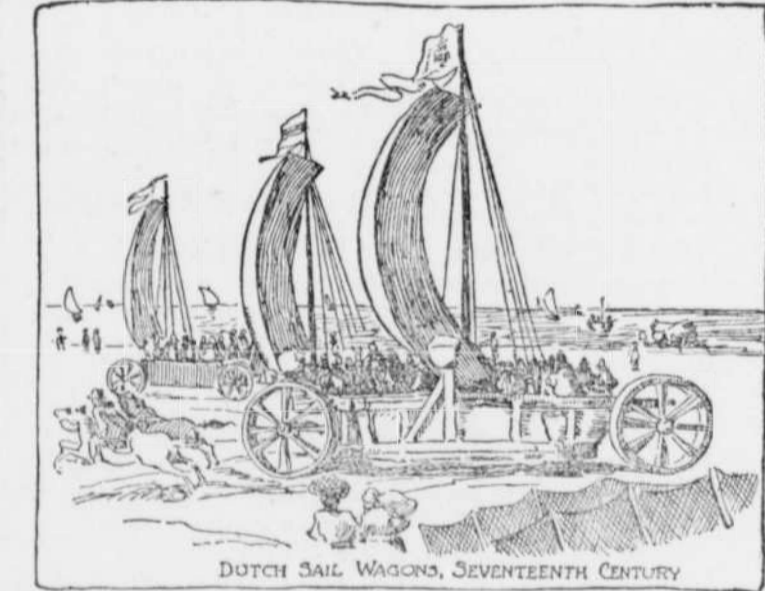
machine had but three wheels, the boiler overhanging in front on the theory that its weight would be counteracted by the load on the carriage. The engine was directly behind the boiler and consisted of two 13-inch single-acting cylinders. The movement of the piston was transmitted to the axle of the driving wheel by two ratchet wheels. The engine could be reversed at will. There was a steering gear, and the vehicle proved its capacity for carrying a load of two and one-half tons at a speed of three miles an hour. Napoleon Bonaparte caused the appointment of a commission of the institute to investigate the invention, but the revolution suddenly put an effectual check on the further development of the automobile. It is interesting to note that in the matter of the production of a practical automobile France led the world in the eighteenth century, as she now leads the world in the building of racing machines of tremendous power.

Dr. John Robinson is said to have suggested to James Watt, the reputed inventor of the steam engine, in 1759, the idea of building a steam-propelled carriage. Watt, apparently, did not take kindly to the suggestion, for he

did not adopt it; but in 1784 he himself patented a steam carriage. **Legs Tried on Machines.**
The first American inventors to tackle the steam-propelled vehicle problem were Oliver Evans of Maryland in 1787, and Nathaniel Read of Massachusetts in 1790.

Richard Trevithick of England in 1802 patented a steam carriage that was a distinct advance over previous efforts. By this time it came to be believed that ordinary wheels were insufficient to secure traction, and mechanical legs

were devised as propellers. The Gordon machine, patented in 1824, was a six-legged affair, the pedals being operated by steam. Goldworthy operated about the same time produced a steam carriage which used legs as auxiliaries. The steam coach patented by Walter Hancock and named the "Autopsy" was placed in commission, with four others, between Stratford and Paddington in 1836 and did a lively passenger business. The more recent development of the automobile is better known. In 1886 Charles E. Duryea conceived the notion of propelling a carriage with a gasoline engine, and two years later partially produced a



DUTCH SAIL WAGONS, SEVENTEENTH CENTURY

different world. The sun had displaced the frost like magic and the sand was blazing hot. That is the most singular thing about the Arizona desert at high elevation. One passes from winter to summer overnight.

"While my bones ached for a few days from sleeping in those artificial sand hollows, I soon grew accustomed to it, and I pass on the hint to those campers who may find themselves obliged to spend the night on an unprotected plain."

"In the Hands of His Friends."
A correspondent who has observed many instances of the good understanding which prevails between the negroes and their white neighbors in the southern states tells the story of a colored man who left his South Carolina home to become a barber in an Illinois city. Not long afterward a negro was lynched in this town, and fears of a "race riot" were entertained. A customer entering the shop found the barber packing up his tools, and learned that he proposed to return to South Carolina.

"There is too much lynchin' goin' on in these parts," declared he. "Tain't safe round hyar."

"Well," replied the customer, "don't you know there are just as many lynchings down South as there are here?"

"Yes, sir, I 'spects dat's true," was the reply, "but if I's lynched hyar I dunno who's gwine do it, but if I's lynched down dar, I knows I's gwine be lynched by my friends."

Experience Would Tell.
"I want an easy chair," said the householder, entering the store. "Yes, sir," said the salesman. "What sort?"

"I don't know yet," was the answer. "Let me look into the boss' office and see what he has. He ought to be a judge."—Buffalo Express.

In addition to death and taxes, you may place among the sure things the fact that nothing is ever settled definitely by debate.

SLEEPING OUT OF DOORS

How the Traveler Passes the Night in the Arizona Desert.

"People drop into a loose habit of speaking about the right and the wrong way of doing a thing," remarked the experienced camper, according to the New York Times. "As a matter of fact, there may be a dozen good ways and as many bad.

"Take sleeping in the open, for instance. My little trips haven't been confined to the Adirondacks and the Berkshires. I've knocked over the whole North American continent and I've picked up some mighty good wrinkles that were never heard of within a 250-mile radius of New York City.

"Down in the Arizona desert last year I was a member of a party traveling between Tucson and the Mexican frontier. The first night out found us in the middle of a flat expanse of sand. There wasn't even a hillock or a rock behind which one could find shelter.

"But the westerners in the party knew a trick or two. I was surprised to see them grubbing out little hollows in the sand corresponding to the shape of the human body. They made a deep depression for the hips and a shallow one for the shoulders, with sand banked up in the middle to support the small of the back. At one end they built up a ridge of sand as a footrest, pounding and stamping on it until it was compact enough not to break down under pressure.

"Then we wrapped ourselves in our blankets Arizona fashion. We placed one corner of the blanket on the left side, just below the heart, and turned around until the body was covered five or six folds deep. This left plenty to spare at both ends, which was disposed of by giving the blanket a turn around our feet and knotting it, and folding down the upper end around the head as a sort of cape.

"We lay down in the hollows we had prepared—'graves,' the westerners called them, and found that we were amply protected from the wind. The latter blew the fine sand over us, and in time our blankets were hidden from sight. There was no danger of our being choked, however, as we used our saddles as pillows, which kept our heads at a sufficient elevation from the surface of the desert.

"When we opened our eyes at dawn the ground was covered with a heavy frost. It must have been very cold during the night, but we had not felt it. We jumped to our feet, shook ourselves free of the sand that had sifted into our clothes, and lighted a fire. The desert was very desolate and white.

"Two hours later it seemed like a

ATCHISON GLOBE SIGHTS.

Every man thinks his brutality is "fact."

Fishing seems to be the favorite form of loafing.

Any woman closely associated with a man can make or break him.

None of us realize how much people talk about us behind our backs.

Every shiftless man is a liar; he acquires the habit in giving excuses.

We despise a man who doesn't appreciate a friend; friends are so rare.

Talk with any man five minutes, and he will say the trouble with him is, he is too meek.

Out of one hundred people who try to save money, ninety-five will make the attempt very feebly.

Even when times are very good, things will not come your way unless you carefully start them.

There are so many kinds of meanness that people now talk about the meanest kind of meanness.

People nearly always predict disaster for their own town, and tell how well other towns are doing.

It is easy to say to a man, "Be sensible." But half the time a man does not know what is sensible.

An Eastern man is teaching people how to kiss by means of a correspondence course. As though everyone does not know!

Much of the clamoring now going on has a tendency to make industry and honorable achievements almost disreputable.

Our experience is that an artist who is not appreciated is just about as disagreeable as it is possible for a human to be.

FASHION HINTS



The back view of this little dress is so attractive that it deserves a word all by itself. The jackety tab at the waist, and the cute little knot of the girle that crushes up to it, are very distinctive. In front, the overskirt finishes in a deep point.

ELECTRICAL NOTES.

London has a trackless trolley. Monorail systems have proven successful in India.

The old horse car lines of St. Petersburg, Russia, are to be electrified.

Buenos Aires has authorized the construction of an electric subway under the city.

Wireless telegraph apparatus is prohibited in British India except upon government license.

Ozone generators are advocated for the subway cars in New York to increase the oxygen in the air.

A French syndicate has contracted to develop the water powers in Uruguay to furnish light and power to the inland towns.

The City Council of Cincinnati is planning a subway to connect the business section of the city with the outlying residential sections.

Lightning will strike more than once in the same place. A transmission line in Colorado was recently struck five times in the same place.

Cincinnati boasts the only church on wheels. It is a large electric bus which is loaded with singers and speakers and invades the slums every Sunday.

The development of the water powers in California has helped boom the state by bringing new industries and helping old industries with plenty of cheap electric power available.

The Cure.
"My doctor ordered a trip to Europe for me."

"And you took it?"

"No; he presented his bill and took a trip to Europe himself."

Her Kiss.
"That pretty girl when she cries is a very affecting sight. She is a regular picture."

"Yes, what one might call a moving picture."—Baltimore American.

YARD AND GARDEN

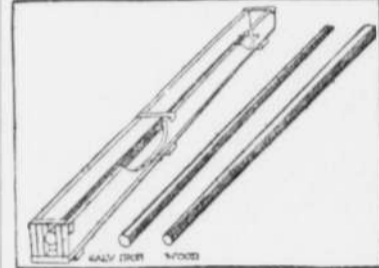
Hollow Concrete Fence Posts.

To construct hollow re-enforced concrete fence posts a few modifications of the ordinary mold are necessary. In addition to the core to be placed in the center of the post, writes C. A. Cook. The mold for an ordinary 4x4 inch post 7 feet long consists of a bottom, two sides and two end gates, all of which are held together by three iron clamps placed over the top of the sides after they are put together. The sides are held to the bottom by small dowel pins inserted in holes in the bottom, so that the sides may be readily revolved, leaving the finished post lying on the base to harden. One end gate must have a two-inch hole in it through which the core may be withdrawn.

The wooden core is constructed of 5 pieces and is 2 inches in diameter. Its full length should be 7 1/2 feet. A round piece of soft wood may be sawed into five strips, so that when the central portion is withdrawn the narrow sides and then the wider sides may be removed from the concrete post.

The galvanized iron core tapers from 2 inches in diameter at the larger end to 1 1/2 of an inch at the top, for a 7-foot post is 7 feet 2 inches long. This can be made by any tinsmith from good heavy galvanized iron, and should be closed at the smaller end.

The mold is fastened together, and about one inch of concrete is placed on the bottom before the core is put in position. After being wrapped with paper the core should be



passed through the hole in the lower end gate. The paper covering will permit the removal of the core in twenty to thirty minutes after the post is made. The galvanized iron core may be greased, but the paper is fully as effective.

The wooden core extends entirely through the post, and two end gates with two-inch holes in them are used with it. The metal core should be placed in the mold so that the smaller end is about two inches from the top of the post. After the core is in position the remainder of the concrete can be put in and the post set aside to harden until the core and molds can be removed.

Farm Work Horses.

If those who have horses in their charge on the farm would inaugurate a more systematic course of feeding, utilizing the cheaper forms of feed, much expense of winter feeding could be saved, and better and healthier horses would be the result. Adopt, for instance, the plan of feeding the horses in the morning only a stomachful of the feed, a stomachful at noon, and only a stomachful at night. Such a course would give the horse's stomach a chance to digest the feed.

If a variety of feed is at hand, then feed one kind in the morning, another at noon and another at night. Regularity in feeding is important. If horses are watered frequently enough they will not drink too much at a time. Regular exercise in the open air is absolutely necessary to maintain a healthy condition. Spasmodic exercising alternating with periods of inactivity is dangerous and unprofitable. The proper use of the means at command on the farm will insure a good condition of the horses that will look well, be well and give excellent service.—N. A. Clapp.

Grafting Wax.

In an iron pot melt over the fire 100 parts of the finest asphalt, add 600 parts brown pitch, until, with stirring, it is fluid; then pour in 600 parts of melted yellow beeswax. The fire must not be too hot at this time. When it is all well mixed, add 600 parts of thick turpentine, stir it well and pour into it 600 parts of refined tallow. Lift it from the fire, stir until you begin to note that it is cooling, and then drop in, stirring steadily, very carefully, because the mass will at once rise up, 250 to 500 parts of alcohol, according to the consistency you wish it to have.

The Morgan Horse.

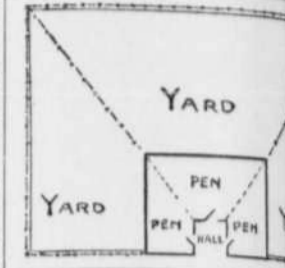
Forty years ago the Morgans were the favorite road horses. This strain traces to a single ancestor, Justin Morgan, foaled in Vermont in 1793, his blood being largely thoroughbred. From him descended the Black Hawk, Rashaw, Goldust, Ethan Allen, Ben Franklin, General Knox and Daniel Lambert families. The Morgan type is short of leg, thick and round barrel, intelligent and of great courage and endurance.

Small Flocks Best.

Because table scraps form a large part of the small flock's ration, and they are usually evenly balanced rations, is one of the reasons a small flock of hens does better than a large one.

A Three-Pen Poultry

The cut shows a very neat try house for three pens of wire netting arranged for the number. The house is 20x30 feet and will accommodate 100 fowls. The interior and yet it comes with all three pens. The pens are of wire netting, and the sunshine that enters at the house to fall into the pens, house should be so located that sides may receive morning and afternoon sun. The plan is according to Orange Judd, dividing the yard outside and leaving the space inside the house.



gives a large amount of sun with yards conveniently located. The building is shingled all over side, with the heaviest building under the shingles, and may be sheathed or lathed and planed side.

Caring for Grapes.

Rules for grapes culture experiment station record, States Department of Agriculture. The main points in agriculture are summarized as follows:

With a few exceptions grapes Lubrusca species, of which cord may be taken as the most satisfactory for planting.

A warm, rich, well drained soil is best for the grape.

Almost all vines should be planted at least eight feet apart.

Strong one-year-old vines are desirable for planting.

Through shallow cultivation the soil should be kept moist.

The pruning of the first year must be done with reference to a system under which the vine is trained after it begins fruiting this time the vine should be thoroughly established.

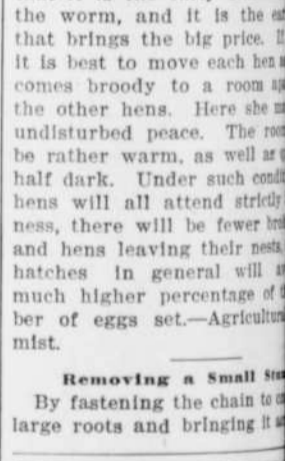
The best time for the pruning is soon after the leaf fall in autumn, but pruning can be done at any time during the winter when the vines are not frozen.

Pruning consists of pinching the branches in order to encourage development of the fruit and the wood for the succeeding year.

The long arm, short spur training is usually the most satisfactory for the inexperienced, but the renewal systems are recommended.

Early Hatching.
To get early sitting hens must have laid out their eggs during the winter or spring. Hens that have laid the fall and all winter will be ones to become broody. They start to laying in the spring that much later in wishing to put the early sitters to work as your eggs are fertile. It is that it is the early bird that the worm, and it is the early bird that brings the big price. It is best to move each hen to a broody to a room by the other hens. Here she is undisturbed peace. The room be rather warm, as well as half dark. Under such conditions hens will all attend strictly to their business, there will be fewer hatches in general will be much higher percentage of number of eggs set.—Agricultural

Removing a Small Stump.
By fastening the chain to the large roots and bringing it



top of the stump, a lever secured to take full advantage of the strength of the horses.

A New Insecticide.
Prof. C. P. Gillette, of the Agricultural College, has discovered a new insecticide for the control of the worms, and probably other insects, which has proved effective in France, Italy, and the United States. It is found not so injurious to the soil as other arsenical poisons. The name of the insecticide is the name of the insect it comes cheaper than any other now in use.

Soil Moisture.
To produce any crop it requires 300 to 500 pounds of water to the pound of dry matter. It is found that soils have a great capacity to hold water, and that it is not so easy to get a good crop of wheat, and that deep plowing and frequent irrigation more moisture and water to the plants. The soil should be kept moist.

Green Food for Chickens.
If you have your own green food, you can have a great variety of green food for your chickens. It is found that green food is one of the best for chickens, and that it is not so easy to get a good crop of wheat, and that deep plowing and frequent irrigation more moisture and water to the plants. The soil should be kept moist.

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THE WEEKLY HISTORY



William Penn issued his plan for the Pennsylvania colony. The Hudson's Bay Company was established. The Pennsylvania mint was established in Philadelphia.

Manuel Lina founded the first post in Nebraska. Napoleon Bonaparte was crowned emperor of France. The United States adopted the 'Star Spangled Banner' as its national anthem.

The Pennsylvania Railroad was established. The first American militia order was issued to prepare for a general uprising.

Thomas D'Arcy was appointed as the first British consul in Ottawa. The first American flag was designed by Francis Pickens. The first American gallery opened in Philadelphia.

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