

**HARNESSING A GUSHER.**  
**IT'S A GREAT FEAT TO SUBJUGATE AN OIL WELL.**

**The Mighty Stream That Rushed Forth When the Lucas Gusher at Beaumont Was Struck - Skill, Daring and Great Endurance Required When Capping.**

Everybody who reads the daily papers knows that a big hole was sunk in the ground near Beaumont, that a mighty stream of oil rushed forth and that the Lucas gusher was created. Everybody knows that after several days had elapsed the well was "capped," and the further waste of oil was prevented. But everybody does not know what a great feat of engineering skill, daring and endurance the process of "capping" was nor what an effort it took to control and bring into subjection that mighty belching of nature.

On Jan. 9 the well had reached a depth of 1160 feet, and there were four metal tubes in the hole. The first casing, a pipe 10 inches in diameter, reached a part of the way. Inside of that there was an eight-inch pipe extending still farther down, and within that there was a six-inch pipe reaching almost 1000 feet down. All of these pipes extended above the surface of the ground. Below the end of the six-inch pipe was a rock formation, through which the contractors had been drilling for several days. The drill was driven by a four-inch pipe extending through the others. The four-inch pipe was merely used as a tool and was not intended for casing.

On the evening of Jan. 9 the four-inch pipe was drawn out in order that a new drill might be substituted for the one which had become worn. The pipe was left out overnight. The next day a new bit was affixed to it and the men began lowering it. It had got down about 700 feet when the oil gushed out of the rock, forcing the four-inch pipe out, hurling it 300 feet aloft, carrying away the tackles, hydraulic pump connections, etc. The oil deposit was not drilled into. The commotion in the bowels of the earth broke through the rock 17 hours after the drill made its last turn, and the oil gushed forth and shot heavenward with terrific force, a belching, uncontrolled monster.

To cap and curb and control this great pillar of force, the upward pressure of which it was afterward determined was 105 pounds to the square inch. The men had to work under the torrent of greasy, dirty oil as it descended to the earth. In order to do this they wore goggles to protect the eyes and gauze shields to protect the nose, all the apertures around them being closed with plaster. Speech and hearing were impossible, and the work was directed by a code of signals previously agreed upon.

A plan was devised for putting a whole valve in place. A frame was constructed of railroad iron as a slide to carry the valve. Two bars were laid horizontally across the derrick frame, passing on either side of the stream of oil. These bars were intended to support and hold the valve in place from the sides. Above these were two other bars, engaging the top of the valve and intended to keep it from being thrown upward when it should come in contact with the stream.

Just beyond the stream bolts were fastened in the bars so as to stop the valve over the stream and at the proper place. The bars were securely anchored so as to withstand the strain to be put upon them. Into this frame or side the valve was put. A block and tackle was rigged up and connected with the valve, and when everything was in readiness a team of horses was driven forward at a rapid speed. The valve was, of course, open at both ends so as to permit the stream to pass through it when it should come directly over the pipe.

But it was known that a tremendous pressure would be exerted upon the half of the valve passing through the stream before the valve would reach its place and surround the flow. As the horses moved forward and the valve came in contact with the stream there was a fearful strain, a tilting movement and a terrific splashing of oil. It was an anxious and critical moment for the men who were trying to harness this force of nature, but the crisis was safely passed. The valve reached the stop bolts and settled into place directly over the end of the pipe and perfectly inclosing the stream. The oil again flowed unimpeded toward the sky, but with the circle of iron around it.

One step in the closing of the well had been safely accomplished, but the valve hung in its frame 12 inches above the top of the pipe. Anchors were made, and the valve was pulled down to the top of the eight inch pipe and screwed on. Fortunately there were good threads on this pipe. The six-inch pipe was what is known as a blind pipe and was not threaded.

It next became necessary to put down anchors sufficiently strong to hold the pipe in place after the closing of the valve should bring the pressure of the stream against it. As the oil was still rushing upward through the orifice at the top of the valve and falling on the ground around the well the men could not work at digging the necessary holes, and furthermore the saturation of the ground made it soft. It therefore became necessary to divert the stream. An orifice on the side of the valve was opened. Then the orifice at the top was gradually closed, and the stream shot out horizontally some 300 feet. Then the holes were dug, the anchors put in and screwed down upon the top of the valve.

The oil was returned to the upward flow in order that a T might be reached at the side of the valve. When this had been accomplished the side

orifice was again opened and the stream turned in a horizontal position.

Now the moment had arrived to shut off the stream altogether, and every pound of pressure exerted by the hidden force deep down in the ground must be borne by the valve and by the anchors chaining it. A pressure gauge was fitted into the valve. Then the gate of the side orifice was gradually closed. Gradually the pressure rose in the gauge. Possibly something might be wrong with the gauge. The stream was turned on again, and a new gauge was substituted. Gradually the pressure rose in this gauge as the stream was shut off. Again it stopped at 105 pounds, and not a drop of oil trickled from the pipe. The anchors held firm; the commotion in the earth no longer was manifested on the surface; the great roar was hushed and silence again reigned. In 19 days and 10 minutes from the time the oil burst from its rocky bed the Lucas gusher had been closed. The six men who had done the work shouted for joy, and Mr. Lucas threw his hat in a pond of oil.

The work of closing the well occupied two days, the beginning having been delayed several days to secure material.

After the well had been closed Mr. Lucas built a large iron casing around the pipe above the earth and filled it with sand to protect the well from fire. Last week the valve was uncovered and opened a little. Mr. Lucas says the pressure continues the same, and they now have the oil confined in natural reservoirs from which they can draw a gill or a million gallons at will.—St. Louis Post-Dispatch.

**QUAINT AND CURIOUS.**

Buffalo, N. Y., has an automatic clock in one of the public schools which announces by a ringing of a bell the closing hour of each recitation. It is said to be the only timepiece of its kind in the world adapted to such work.

A party of 10 California automobilists recently indulged in a wildcat hunt. They followed the hounds as closely as possible, the country being favorable to the operation of the vehicles, and had the satisfaction of bagging a dozen of the felins.

Some years ago there was a remarkable migration of crabs at the mouth of the St. James river. They moved slowly along to the north, and not only covered the bottom, but countless numbers swam in midwater. Not a foot of the sandy bottom was free of crabs, so that it was impossible to put an ear down without striking one or more. For several days this movement continued.

Goust is the smallest republic as to area, but Tavolara is the smallest republic as to population. Goust is only one mile in area. It is located on the flat top of a mountain in the Pyrenees, between France and Spain, and is recognized by both these countries. It is governed by a president and a council of 12. It was established in 1648 and has 130 inhabitants. The president is tax collector, assessor and judge.

Devotees of golf are fond of referring to it as "the ancient and royal game." It is probably more royal and certainly far more ancient than most of them have any idea of. At all events a pictured tablet was recently unearthed at Carchemish, the old capital of the Hittites, whereon are depicted men and women engaged in a pastime, which, if not exactly golf as played at present, is something extraordinarily like it.

How to stop the Indians of the South Dakota reservation from eating each other's food is an amusing but perplexing problem with which the Indian bureau is now dealing. It is an unwritten law of Indian hospitality that a guest may stay as long as he likes, and that as long as the guest remains the host must provide the food. It has become the custom among the Sioux, who have a feast with their two-week ration as soon as they receive it from the government, to go to the more provident Indians and live on them until all their food was gone.

**The Gun-making Industry.**

As an illustration of the magnitude of the business involved in the purchase by the smaller powers of war material in Europe, one has only to look at the number of men employed at such great plants as the Krupp of Germany, the Creusot in France, and those of the Armstrongs and Vickers Sons & Maxim of England. Krupp employs something like 25,000 men; the two English firms employ collectively about 35,000 men; and the Creusot plant about 19,000. No reckoning is here made of the famous Loewe works of Berlin, or of Italian, Belgian and numerous French firms. With the exception of Krupp, the above establishments ordinarily confine themselves to filling foreign orders.—Harper's Weekly.

**Well-Bred Princesses of Siam.**

A somewhat curious school has been opened at Bangkok by an English lady. The pupils are 15 in number, and they are all princesses of the royal family in Siam. They are taught to do everything that a good housekeeper should do. They cook, wash clothes, bake, sweep the rooms, lay the table, arrange the flowers, and in short, learn to make themselves generally useful. They leave the school to be married at the age of 15, and it is said that a Siamese princess now makes an admirable wife.—London Globe.

**Gray?**

"My hair was falling out and turning gray very fast. But your Hair Vigor stopped the falling and restored the natural color."—Mrs. E. Z. Benomme, Cohoes, N. Y.

**It's impossible for you not to look old, with the color of seventy years in your hair! Perhaps you are seventy, and you like your gray hair! If not, use Ayer's Hair Vigor. In less than a month your gray hair will have all the dark, rich color of youth.**

1.00 a bottle. All druggists.

If your druggist cannot supply you, send us one dollar and we will express to you five the name of your nearest express office. Address, J. C. AYER CO., Lowell, Mass.

**Treasures of a Countess.**

One of the most noted women of Europe was the Countess De Castiglione, who died in Paris last year. An inventory of the valuables left by her has recently been made. She has five apartments, one in the Rue Cambon, two at Batignolles and two in the Rue Castiglione, for which he paid \$3,000 rent. All these apartments were packed with treasures of every kind. In the Rue Castiglione there were found more than 50 chased silver and gold mounted fans. These were carried by the countess at the fetes at the Tuileries. One chest was packed full of lace, another was full of furs. In one of the trunks there was a pawn ticket for jewels on which \$30,000 had been lent. One of these was the famous pearl necklace worn by the deceased, which was valued at \$50,000. One chest was full of silver plate, and in another was a massive silver tea service. In the wardrobes and commodes there were silk, satin and velvet dresses in large numbers, and heaps of the finest French cambric; also of ribbons, Chantilly lace, etc. In one basket were 25 groups of old Dresden china, wrapped up in cambric and other linen. In two trunks there was an incredible number of Louis XV sunshades, with ivory and gold handles and encrusted with precious stones. The heir of the Countess De Castiglione is Maria Tribone of Genoa. He is going to Paris for the sale of her property, which will take place at the Hotel Drotot shortly.

**An Expensive Timepiece.**

The most expensive clock now in existence is one owned by the Rothschild family. It dates from the time of Louis XVI, and cost \$165,000. There are many other valuable clocks, some of them very old and exhibiting seemingly inexplicable features. One of these has on top a basin, marked like a dial and filled with water, on which floats a miniature swan of iron. The bill of this swan indicates the hour as correctly as does the second hand of an ordinary clock. Whenever a ball floats freely in the basin and the basin rocks loosely on the pedestal, the clock greatly puzzles the uninitiated. Yet the explanation is simple. The basin rests on a thin copper plate; underneath this plate the clockwork rotates a magnet instead of an hour hand, and this magnet attracts and holds in proper position the bill of the iron swan. A springless clock is operated by balls falling on the right side of an overshoot wheel and by their weight rotating the hands. Whenever a ball reaches the lowermost position it drops through an aperture in the box at the bottom and at the same time another ball drops from the box on top of the wheel. From time to time the balls in the lower drawer have to be removed by hand to the upper receptacle.

We refund 10c. for every package of Purssan's Ointment that fails to give satisfaction. Monroe Drug Co., Unionville, Mo.

There are now 1834 German naval officers on active service and 530 on leave of absence.

All people who throw bouquets at themselves are not contortionists.

**Are You Using Allen's Foot-Ease?**  
It is the only cure for Swollen, Smarting, Itching, Hot, Sweating Feet, Corns and Bunions. Ask for Allen's Foot-Ease powder to be shaken into the shoes. Cures while you walk. At all Druggists and Shoe Stores, 25c. Sample sent FREE. Address, Allen S. Gimsted, LeRoy, N. Y.

The "foreign" population of Yokohama, Japan, averages 2000, of which 800 are English.

**Frey's Vermifuge, 25 Cts.**  
Eradicates worms. Children made well and mothers happy. Druggists and country store.

Last year the gold production of Australia amounted to \$20,000,000.

FITs permanently cured. No fits or nervousness after first day's use of Dr. Kline's Great Nerve Restorer. \$2 trial bottle and treatise free. Dr. R. H. KLINE, Ltd., 531 Arch St., Phila., Pa.

The young fellow with his first mistake feels down in the mouth.

E. B. Waldhall & Co., Druggists, Horse Cave, Ky., say: "Hall's Catarrh Cure cures every one that takes it." Sold by Druggists, 75c.

Australia has 6100 churches, 210 for every 10,000 of her population.

Mrs. Winslow's Soothing Syrup for children teething, softens the gums, reduces inflammation, allays pain, cures wind colic, 25c a bottle.

Family jars are not all to be found in the pantry.

Piso's Cure is the best medicine we ever used for all affections of throat and lungs.—Wm. O. Essler, Vanburen, Ind., Feb. 10, 1900.

Lots of people kill themselves trying to be popular.

Always keep Garfield Headache Powders on hand; they cure headaches, clear the head of fullness, relieve nervousness and mental strain, and make one feel well. They are harmless and do not derange the system.

The cotton States have 450,000,000 acres fit to grow cotton, and cotton grows on only 25,000,000 acres.

**Giants' Kettles in Minnesota.**  
In the Inter-State Park, near Taylors Falls, Minnesota, has been discovered a singular group of "giant's kettles," or potholes, covering an area of two or three acres and ranging in diameter from less than a foot to 25 feet. They have been bored in exceedingly hard rock, and in many cases they are like wells in shape, the ratio of width to depth varying from one to five up to seven. Mr. Warren Upham ascribes their origin to torrents falling through glacial "moulines" at the time when the northern territory of the United States was buried under ice. As with similar potholes elsewhere, rounded boulders are occasionally found at the bottom of the cavities.

**Cassava and Sugar Cane.**  
Farmers in Florida, in the low country of South Carolina and in the southern part of Georgia are experimenting with fond expectation in the cultivation of cassava and sugar cane, in the hope of developing two ideal money crops. Their interest has been excited by the success of an experimental cassava starch factory in Deland, Fla., which in three years has marketed 2-40 tons of starch, and by expert reports on the high quality and yield of sugar made from cane grown in Florida and Georgia.

**Country Cousins Do Not Figure.**  
Turks have no family names. For example: A man named Mohammed has a son named Ahmed and a daughter named Sophia. The son will always be known merely as Ahmed and the daughter always merely as Sophia, in the latter case even after marriage. The result is that members of families after one or two generations become lost to each other. In fact, the "sisters and the cousins and the aunts" business is not much exploited in Turkey. One may be talking to two brothers or two sisters without the fact being made known. There being no family ties—no aristocracy. The Grand Vizier of to-day may have been a camel driver or a servant. His rise is not due to any family influence or connection.

Since the Louisiana and Texas farmers learned to raise rice by irrigation they have invested \$5,000,000 in 1,500 miles of canals, capable of flooding 300,000 acres, and spent \$1,700,000 in building 30 modern rice mills. Under the new system the rice lands pay a net profit of \$15 an acre.

The German army includes more than ten thousand musicians.

**Bromonia** For Headache  
Effective in cases of nervous disorders of women.  
Headaches from overwork, or other causes. Mailed to your address on receipt of 5c. each; medium size, 6c.; large size, 10c.  
BROMONIA CO.,  
Seymour Block, 315 Ave. and 3rd St., N. Y.

**DROPSY NEW DISCOVERY:** gives relief. Best of testimonials and 10 days' treatment free. Dr. R. H. GREEN'S BLOOD. Box B, Abbeville, Ga.  
"The Sancerre that made West Point famous."  
**McILHENNY'S TABASCO.**  
P. N. U. 28, 1901.

**WISCONSIN'S CURE FOR RHEUMATISM**  
WILL WRITE ALL ELSE FAILS.  
Best Cough Syrup. Tastes Good. Use in Time. Sold by Druggists.  
**CONSUMPTION.**

**LION COFFEE**  
**A LUXURY WITHIN THE REACH OF ALL!**

**"THE VILLAGE GROCER."**  
(With due apologies to H. W. Longfellow.)

Under a spreading chestnut tree  
The corner grocery stands,  
The grocer—mighty man is he  
With hard and sinewy hands,  
That weigh out goods from morn till night,  
And also coffee brands.

His goods are varied in their price  
And quality as well,  
The store itself looks neat and nice,  
As all his neighbors tell,  
And his one great ambition is  
To LION COFFEE sell.

Week in, week out, from morn till night,  
You'll hear this fellow blow  
About his coffee, always right,  
The LION brand, you know;  
Because it's pure and honest goods  
He tries to make it go!

Not only is it pure and good,  
But also very cheap,  
Because 'tis best for household use,  
A stock he'll always keep.  
In LION COFFEE this his faith  
Is both sincere and deep.

Buying—rejoicing—wondering,  
His customers attend  
That LION COFFEE is, by far,  
In quality the best,  
And the premiums also are admitted  
And always in request.

In our Establishments we positively do not allow the use of Eggs, Egg Mixtures, Glue, Chemicals, or similar substances.  
**LION COFFEE** is an absolutely Pure Coffee.

Watch our next advertisement.

Just try a package of **LION COFFEE** and you will understand the reason of its popularity.  
**LION COFFEE** is now used in millions of homes.

In every package of **LION COFFEE** you will find a fully illustrated and descriptive list. No housekeeper, in fact, no woman, man, boy or girl will fail to find in the list some article which will contribute to their happiness, comfort and convenience, and which they may have by simply cutting out a certain number of Lion Heads from the wrappers of our one pound sealed packages (which is the only form in which this excellent coffee is sold).  
**WOOLSON COFFEE CO., TOLEDO, OHIO.**

No matter how pleasant your surroundings, health, good health, is the foundation for enjoyment. Bowel trouble causes more aches and pains than all other diseases together, and when you get a good dose of bilious bile coursing through the blood life's a hell on earth. Millions of people are doctoring for chronic ailments that started with bad bowels, and they will never get better till the bowels are right. You know how it is—you neglect—get irregular—first suffer with a slight headache—bad taste in the mouth mornings, and general "all gone" feeling during the day—keep on going from bad to worse until the suffering becomes awful, life loses its charms, and there is many a one that has been driven to suicidal relief. Educate your bowels with **CASCARETS**. Don't neglect the slightest irregularity. See that you have one natural, easy movement each day. **CASCARETS** tone the bowels—make them strong—and after you have used them once you will wonder why it is that you have ever been without them. You will find all your other disorders commence to get better at once, and soon you will be well by taking—

**THE TONIC LAXATIVE**  
**Cascarets**  
**LIVER TONIC**  
**BEST FOR THE BOWELS**  
**NEVER SOLD IN BULK.**

**CURE** all bowel troubles, appendicitis, biliousness, bad breath, bad blood, wind on the stomach, bilious bowels, foul taste in mouth, headache, indigestion, pimples, pains, itching, liver trouble, a flow complexion and dizziness. When your bowels don't move regularly you are getting sick. Constipation kills more people than all other diseases together. It is a starter for the chronic ailments and long years of suffering that come afterwards. No matter what ails you, start taking **CASCARETS** to-day, for you will never get well and be well all the time until you put your bowels right. Take our advice: start with **CASCARETS** to-day, under an absolute guarantee to cure or money refunded.

**GUARANTEED TO CURE:** Five years ago the first box of **CASCARETS** was sold. Now it is over six million boxes of great merit, and our best testimonials. We have faith, and will sell **CASCARETS** absolutely guaranteed to cure or money refunded. Go buy two 50c boxes, give them a fair, honest trial, as per simple directions, and if you are not satisfied, after using one 50c box, return the unused 50c box and the empty box to us by mail or the druggist from whom you purchased it, and get your money back for both boxes. Take our advice—no matter what ails you—start to-day. Health will surely follow, and you will bless the day you first started the use of **CASCARETS**. Book Free by mail. Address: **STEELE REMEDY CO., NEW YORK or CHICAGO.**

10c.  
25c. 50c.  
ALL DRUGGISTS.