

## SLEEP BY ELECTRICITY

Many Experiments With the New Anaesthesia.

## STUDIED FIVE YEARS

Work Inspired by Professor Stephane Leduc, of France—Gone Far Along the Path of Experimentation—Leduc Twice Applied the Current to Himself.

Important experiments in the use of electricity as an anaesthetic have been made recently before the Society of Chemical Surgery in the laboratory of experimental surgery in connection with the College of Physicians and Surgeons at Columbia University.

The work here has been inspired by Dr. Stephane Leduc of the College of Medicine, Nantes, France, who has gone far along the path of experimentation having twice applied the current to himself.

The current which produces the "electric sleep" as the French call it, is different from any previously known. There is a special apparatus for its application, the principal feature of which is an interrupter by means of which a maximum of more than 6,000 interruptions a minute may be given. The current is of low tension and constant direction—that is to say, a current which acts for a time, ceases, recommences and so on by regular intervals.

As soon as the interruptions cease the return to consciousness is immediate, and this return has no relation whatever in appearance or sensation to the return from unconsciousness induced by present anaesthetics.

Electric sleep comes almost immediately within a minute or two after the current is turned on, while those who have witnessed the administration of chloroform, ether or ethyl chloride know that it is a process sometimes taking half an hour or more, dependent upon the resisting power and general condition of the patient.

Experiments for local anaesthesia by means of this interrupting current, which have formed part of the experiments at Columbia, were completely successful. It was shown that by placing an electrode over the median nerve in the wrist the whole body fed by that nerve was anesthetized. The return to the "normal" was instantaneous with no condition of impaired circulation. Dogs were used in these experiments, rather than cats, rabbits or squirrels, for the reason that the dog's nervous system closely resembles the human, and its intelligence is of help in that it would show some reaction at if it suffered and would run away from a further experimenting. Some of the dogs have been on the operating table five or six times, and do not apparently mind it in the least.

So far the one weak link in the chain of successful experimenting has been in the matter of respiration, the interrupting current when applied with too great intensity, leaving the heart action perfectly free, but paralyzing the breathing, an effect which has to be met by producing an artificial respiration, which is done by the application of another electric current.

All of the physicians at the laboratory agree that a new era in surgery is at hand when the old time horrors of the operating table will be no more.

"There is no branch of medicine and surgery that it will not reach," they say. "The insomnia that comes from excessive pain, the terrible neuralgic spasms, the pains of childbirth even—the attendant pains of which have always been one of the reproaches of medical science—all these and more will be relieved. When the anaesthetic properties of chloroform were announced, its discoverer was looked upon as a savior, and at his death a tablet was erected to his memory in Westminster Abbey; but just as we look back now with horror at the idea that the old time palliative to pain could be offered, so shortly we will look back with the same horror at the idea of using any of the present anaesthetics and drugs that are employed."

## Optics in Painting.

In order to avoid undesirable chemical mixtures, a few painters nowadays resort to the rather interesting expedient of putting little dabs of different colors alongside of each other (instead of combining them) in such a way as to produce the requisite optical effect when the picture is viewed from a distance. In other words, reliance is had in the principle of optics, the tints being fused by the eye.

Incidentally to the scientific examination of a valuable picture, resort is sometimes had nowadays to the expedient of cutting from one of its edges a tiny strip about a millimeter in width and a couple of inches long, which is thereupon divided into a number of smaller pieces for microscopic examination. When one of these pieces is placed beneath the microscope it may be observed in cross section, the touches made by the painter appear in parallel bands and on in chronological order. "By this means," says Dr. Lemaire, "we learn the nature, the make-up, and even the age of the several layers of the painting."—The Saturday Evening Post.

## WONDERFUL TALKING CROW.

25 Years Old and Loves a Lively Conversation.

The greatest talking crow on earth has celebrated its twenty-sixth year of captivity. It is the property of Homer McGee, a son of a carpenter of Cameron, Mo.

The bird is in the habit of greeting various persons whom he meets in the streets in a loud voice, though aside from a few words, his vocabulary is little known to the ordinary citizen. But at home he becomes loquacious, and his owner is sometimes compelled to insist that crows shall be seen and not heard.

One gray-haired woman relates that she was leaving home on a certain afternoon when she heard a cry of "Grandma! Grandma!" She looked everywhere, thinking that her little grandson had come, but presently saw the crow peeping mischievously from the house top.

When the writer visited him at his home the bird called members of the family "Pa," "Ma," "Nora," and



Talking Crow and its Owner, "Homer." His interrogative, "What for?" was interposed in various parts of the conversation with most laughable results. He called the chickens to their feed, clucked like a hen and mewed like a kitten. It was said that he enjoyed a dog fight above all else, encouraged it in the beginning by shouting "Hi-hi-hi!" and adding fuel by spirited ejaculations of "Sick 'em!" and "Lick 'em!"

## Making Electric Light Bulbs.

The process of making the miniature electric light bulbs that are used in such profusion now for decorative and advertising purposes is one requiring a great deal of manual skill, or, rather, skill both of the hand and mouth, for they are blown by mouth from glass tubes, which are imported specially for the purpose. The large bulbs used for ordinary lighting purposes are made by machinery.

The biggest factory for the manufacture of these tiny bulbs is in Hudson street, New York, and it turns out in the busy season nearly 3,000 bulbs a day. The first process is blowing the bulb. The end of the glass tube is softened in a gas flame and closed, and then a spot in the center of the tube is held in the flame until it becomes soft enough to work. When that point is reached the operator blows it up to the required size and then lays it aside. During the blowing process the tube is kept constantly turning in order to preserve the symmetrical outlines of the bulb. This part of the work is done by men. Women do not seem to possess lung power enough for it.

While this is going on, girls in another part of the shop are at work soldering on the little specks of carbon which are to furnish the light to tiny wires. The bulbs are closed at one end, cut off the tube, and passed to a girl who sets the carbons into them and passes them on to another workman who anneals them on to a fork containing five bulbs, all communicating with a trunk tube. This in turn is annealed on a branch which contains twenty-five bulbs. These branches are then taken to the exhausting room, where they are attached to a series of air pumps and the air is exhausted from them. Each bulb is then subjected to a gas flame again, and the end is hermetically sealed. After this come the minor operations of finishing, testing and fitting to sockets. Each lamp is tested three times before it is allowed to go out, and it must also conform, as to size, to a standard measurement.

## The Old-Style Menagerie.

The first elephants seen in the United States were exhibiting in tavern barns, moving from town to town in the night, to prevent the inhabitants from "seeing the elephant" free of cost. The earlier circus managers leased their animals from importing speculators. Turner, who toured principally in the East, added a menagerie to his outfit in 1844, leasing an elephant and six cages of animals from James June. In 1847 Turner increased the attraction by exhibiting a hippopotamus made out of leather. As Turner was originally a shoemaker, perhaps he manufactured the fake beast himself. As late as 1872, George F. Bailey & Co. toured New England and the middle states with a caged stuffed giraffe in their collection of "wild beasts." In 1851 the Turners, sons of the original Turner, purchased their animals, and it is claimed that they were the first managers in this country to do so.—Collier's Weekly.

## Wives and Daughters Pawned.

They have a curious way of utilizing wives and daughters in some parts of India. If a man wants money he puts these members of his establishment in pawn and his creditor detains them until the debt is discharged. The custom varies in different localities. In Melore the Yerals pledge their daughters to creditors, who may either marry them or give them away, and a man who has to go to jail deposits his wife with another family of her tribe until his return. In North Arcot unmarried daughters are frequently mortgaged and become the absolute property of the holder until liquidation.

## 385 POUNDS AND STILL GROWING.

Only 28 Years of Age and Miss Carter is in Good Health.

By the time she has attained her full growth Miss Cassie M. Carter of South Bluehill, Me., can justly lay claim to being one of the largest women in the country. Although but 28 years of age, she already tips the scales at 385 pounds, and with good health and good appetite in her favor, is gradually increasing in dimensions. What the limit will be, and how soon it will be reached, Miss Carter, of course, does not know, and if the subject is giving her any worry it is certainly not causing her to lose flesh.

She has an appetite which calls for three generous meals per day, and the matter of dieting as a means of reducing her weight has apparently not received her serious consideration.

Added to this hearty appetite is a love for exercise in the open air, and summer visitors at South Bluehill have marveled at the vision of this



Miss Cassie M. Carter.

extraordinary woman indulging in all sorts of games with the young folks and bounding about in the surf.

When Miss Carter was born there was nothing to distinguish her from thousands of other children. She weighed only 6½ pounds, and partook of all the characteristics of her parents.

Her father weighed 150 pounds and her mother only 115 pounds.

The father died when Miss Carter was 13, and she has since made her home with her mother, to whom, in many senses of the word, she is a "big help." The child's gain in weight was only normal until she was a year old, but from that moment to the present her physical progress has been of the most remarkable character.

At the age of 20 months she weighed 65 pounds and made a substantial lapful for a mother, who could boast only 115 pounds. The bouncing which she received upon the paternal knee was considerably limited on this account. The baby carriage was made of the very strongest material, and the mother who trundled it often kept an anxious eye upon the wheels and springs, fearful of disaster.

At the age of five Cassie stepped upon the scales in the village grocery, surrounded by a wondering group of the townspeople. The grocer tried the 100 pound weight and the beam flew up with a force which threatened to put the scales out of commission. When the notch marked 62 was reached the beam remained suspended, and Bluehill had the champion 5-year-old, with a weight of 162 pounds.

Two years later the girl weighed 211 pounds and her fame spread throughout the eastern part of the state. Her subsequent gain was steady, and has brought her notoriety which would be very annoying had she not been accustomed to it from childhood.

Miss Carter's latest measurements, taken a few days ago for a Globe correspondent, are as follows: Height, 4 feet 8 inches; around the waist, 4 feet 5 inches; around the bust 5 feet; around the hips, 6 feet.

With such dimensions it may be readily understood that Miss Carter long since despaired of obtaining wearing apparel in the manner of other women. All her clothing is made by herself and nothing, for it is impossible to find anything in the stores which will fit, even stockings. Instead of shoes she wears the widest kind of slippers.

Bargain day at the local dry goods store is entirely lacking for her in the attractions which it has to other women of her age.

Her daily occupation is housework and she is surprisingly nimble in the performance of it.

She is present at most of the school events in her town, and occasionally indulges in dancing, although she is very modest about her ability in that line.

She chats in a very interesting manner, with all who wish to talk to her and is entirely free from sensitiveness about questions which concern her size and weight. Her unflinching good nature makes her a general favorite among the townspeople.

## The Wonderful Umbrella Tree.

The umbrella tree is found in Ceylon in greater profusion than anywhere else in the world. As a matter of scientific fact these trees grow to their greatest height and attain to their greatest size in very wet, rainy countries. This growth frequently is due to the fact that the tree requires a great deal of moisture, and not because it is needed to keep off the rain. The tree forms so complete an umbrella that a number of persons might take shelter under its spreading branches. The foliage is, as a rule, so thick that it serves to keep off the rain almost perfectly even in a heavy downpour.

## HOTEL OF MANY GRIEVANCES.

Accepts Guests Only When in the Right Humor.

In the Petrolia circuit of hotels is one that runs intermittently, as an oil well flows. If all the members of the family are in good humor and at peace with the world, it is open for business and the traveller or wayfarer finds good cheer beneath its roof. But if there happens to be a row on, or other internal dissonance, it is impossible to get a bed or board. This sometimes causes the travelling public annoyance, for it is the only hotel in the town; but travelling men who "make" the Petrolia towns have become used to it, and they make the best of it.

Besides the landlord, the family is composed of his wife and two daughters. Their man of all work is a negro porter. If the "old man" is in a miff he refuses to admit a guest to the house. If the wife and daughter are out of sorts, they refuse to cook for guests. If it is only a kitchen grievance, guests are given rooms, but they must find meals outside. If the trouble is in front, there is neither bed nor board. While hostilities are on the women sew or visit the neighbors and the "old man" and the porter play "pitch." If it is a kitchen row the "old man" is particularly agreeable, but if it is his own grievance only the porter can get along with him.

One afternoon a traveller struck the town when the "old man" was in a bad humor. "We are not receiving people to-day," the landlord said, without stopping his game of "pitch." "Why not?" the traveller, who was a stranger, asked. "That's my business," replied the landlord. "Well, may I sit here and rest?" "No; you may leave your grip here, but you can't stay yourself. You disturb the game." Just then the porter caught the "old man's" jack and he added angrily, "No, and you can't leave your grip here, either."—Kansas City Star.

## A Famous Old Arithmetic.

The present generation is inclined to think of Daboll as the father of arithmetic, and those who possess a copy of his work think they have a treasure, indeed.

The Star representative, however, has privilege of reviewing a text book in mathematics published 73 years before the famous Daboll was born. This book is undoubtedly one of the oldest owned in Otsego county, and is considered a great curiosity by all who have seen it.

It is the work of Edward Cocker, printed November 27, 1687, by John Collins, two years after the author's death. The work is famous, since it was for years considered a forgery of Collins, and in its day caused much discussion in the colleges of England.

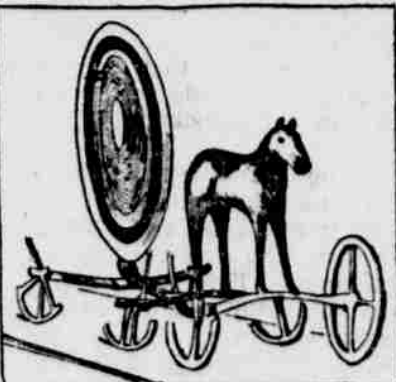
Collins, who was an actor and poet and an intimate friend of Edward Cocker, dispelled the accusations against him by proving manuscript for the book to have been Cocker's. The latter was one of the most famous authorities on arithmetic of his day and published many books.

The fact that the multiplication table appears in the book gives some force to the common expression, "As old as the multiplication table."

Primary pupils of to-day who are inclined to believe that this combination of figures was especially prepared to rack their memory should find some satisfaction in the knowledge that children of at least two and a half centuries have drilled upon it.—Oneonta Star.

## The Ancient Chariot of the Sun.

This curious bronze object was dug up recently in Sweden. It represents the chariot of the sun, and was a votive offering to the sun god of the ancient Scandinavians. It is richly ornamented with fine chisel work, and



The Curious Sun Chariot.

the disk representing the sun shows traces of gilding. Of the six wheels only one remains entire.

## The Greatest Ocean Depths.

The deepest sounding ever made by any vessel, says The National Geographic Magazine, was by the United States steamship Nero while on the Honolulu-Manila cable survey, with apparatus borrowed from the Albatross. When near Guam the Nero got 5,269 fathoms, or 31,614 feet, only sixty-six feet less than six miles. If Mount Everest, the highest mountain on earth, were set down in this hole, it would have above its summit a depth of 2,612 feet, or nearly half a mile of water.

## Thomas Jefferson's Andirons.

Mrs. George Horn, of Newark, N. J., has in her possession a set of antique andirons formerly owned by Thomas Jefferson. They were purchased at a sale of a tenant, who lived at Monticello. Thomas Hills of Bridgewater, Va., came into possession of them at that time (1826) and they remained in his family until purchased by the present owner last July. The outfit consists of two brass andirons and a brass topender, and all are in a splendid state of preservation.

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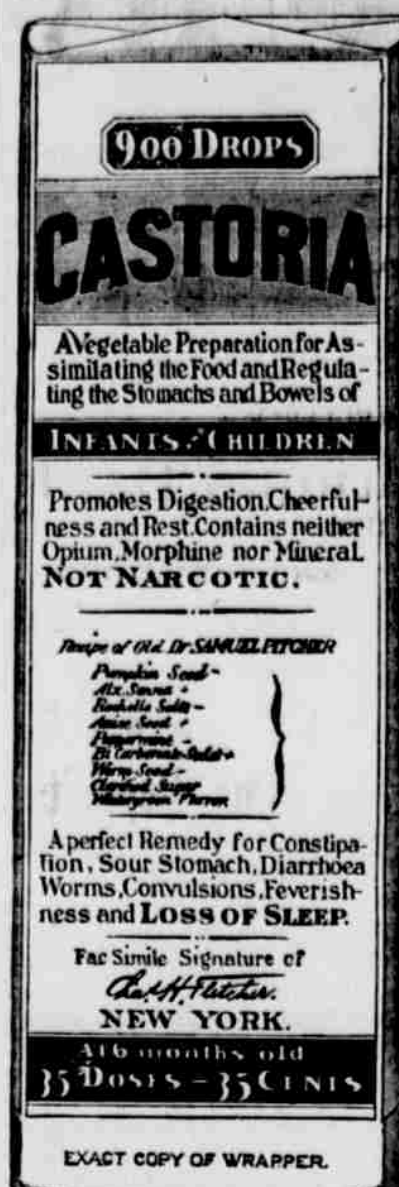
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—She—"Oh, a woman can always pull the wool over a man's eyes." He—"I guess that's right. Woman owes her very existence to the fact that Adam was once caught napping."

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