

SCIENCE AND NEAR-SCIENCE UP-TO-DATE

How Women of Old Rome Became Famous as Beauties

HOW the beauty-craving woman of ancient Rome would have liked to live in this day and age of electric vibrators, electric needles, rubber masks and other scientific appliances for bringing back the charms of youth. Investigation shows that she resisted advancing age until the last—concealed her wrinkles, helped her figure with judicious padding and replaced lost teeth by artificial ones of ivory, fastened with gold.

The Roman woman needed for her toilet a whole hery of maids, of whom each was a specialist and had her peculiar skill and duty. Milady's dressing table, which was often of considerable dimensions, contained pomades and perfumes of various kinds, and a whole armament of boxes, phials, knives, tweezers, brushes, bodkins and scrapers. In the evening, when she betook herself to repose, a cake of fine dough, kneaded with asses' milk, was spread over her face, to render the skin elastic and soft and to preserve its delicate tint.

Asses' milk had a high reputation for its cosmetic powers. The Empress Poppaea, Nero's consort, was the first to bring it into vogue; and when she traveled she was accompanied by a drove of she asses, that she might always have a supply of fresh milk. In the morning this plaster of dough was dry, and it was then slowly and carefully washed off with fresh milk.

Then began the work of the "kosmetal," as these dressing maids were called. The eyebrows were drawn with the pencil in fine arches, the lashes darkened, white and red laid upon the cheeks, the nails trimmed and polished, the hair oiled, perfumed, and the coiffure built up; then shoes of soft, bright leather, or sandals with straps studded with pearls, were put on the feet, and finally the perfumed garments folded about the person.

Last of all came the ornaments for the

hair, such as frontlets, diadems, pins, or strings of pearls. The Roman lady prized not only the artistic beauty but also the material value of her jewelry, and did not shrink from displaying a parure that cost millions. The Empress Lollia Paulina, consort of Caligula, appeared at her betrothal ceremony decked in jewelry valued at 40,000,000 sesterces, or \$1,548,000. It consisted of emeralds and pearls, the art of cutting diamonds then being unknown.

So now the beauty, having been dressed, perfumed and decked with jewels, sets out to receive the homage of an admiring world. Whatever her destination, her delicate feet must never touch the hard pavement of the streets. The curtained litter stood ready; eight stalwart Cappadocians, her slaves, were waiting to bear their mistress wherever she might order. Taking a fan of feathers in her hand, she moved to her conveyance with the calm and noble gait of a matron and the stately carriage of a great lady, and, reclining on soft cushions, was borne away, leaving a waft of perfume in the air as she passed along.

Hairdressing among the Roman women was an art, and the slave girls entrusted with this important duty were instructed in it by professional teachers. For a long time auburn or golden hair was most esteemed. Hair of a natural blonde was rare among Roman women, but they used a kind of caustic pomade or soap, in which ashes were an ingredient, to give their dark tresses the admired hue. In other words, they were our first "peroxide blondes."

The application of this dye was not agreeable, but they submitted to it with exemplary patience. The hair was first washed in lye, then rubbed with this dress-

ing and exposed to the rays of the sun. Even this was not always effectual, and then recourse was had to a wig, the blond hair for which was obtained from female captives or imported. Merchants traveled through the Teutonic tribes buying up blond and red hair.

Great care of the hair was also customary among the Greek women—and the men, as well. To have the hair cut, or dressed, the men went to the barber-shops, which abounded in all the Greek cities. As at the present day, the barbers were noted for their loquacity and knew how to entertain a customer with all the latest gossip. Indeed, their shops were often frequented on this account, and became resorts of the idle, the curious and the talkative, who passed there a considerable part of the day.

Greek women often wore false hair, and dyed gray locks black, or faded tresses auburn. To perform this latter feat they used a caustic wash and exposed the hair to the rays of the sun. In this point the men were scarcely behind the women, for they, too, used cosmetics to dye the hair and beard black when they began to turn gray. Dyeing them brown or blonde, though sometimes practiced, was considered effeminate and foppish.

An elegant Greek lady needed for the completion of her toilet no less than fifty different articles, all of which a garrulous writer has enumerated. In the list we find mirrors, jars and phials, unguents and oils, combs and brushes, pencils and colors. She well understood, for that day, how to defend her beauty from the attacks of advancing age, and only yielded to the universal conqueror, Time.



The Roman Woman Needed a Bery of Maids, All Beauty Specialists, to Aid Her in Making Her Toilet.

Here Are Many Opportunities for Inventors

HERE are a few simple things so badly needed that the Scientific American calls upon inventors to get busy and invent them:

A compartment cigar case to put in the pocket, whose unfilled compartment or compartments may be collapsed without impairing the protection offered to the cigar or cigars contained in the filled compartment.

A ticket holder for holding the price and lot tickets to a coat or other garment, which ticket can be easily applied to and removed and another inserted, all without mutilation of or other injury to the garment.

The lower berth in a sleeping car is stuffy with the windows closed, and if you open the window the cold air is directly on you. It is thought that the riding public would appreciate some deflector or diffusing construction which could be applied to the open window over the usual short-hinged screen and permit the entry of fresh air, at the same time preventing it from blowing directly upon the passenger in the berth.

Some means for effectively preventing the mirror effect in show windows, the ef-

fect we all notice in passing such a window in which our image is reflected and the contents of the window are shut out of view. Naturally, the shopkeeper who works for a display in his window resents it not being seen.

President Wilson, who is an ardent golfer and also dependent on his eyeglasses, is reported as saying that he cannot play the game in the rain because of the accumulation of moisture on his glasses, which leads to the suggestion that specially devised glasses or some treatment of the ordinary lens may solve the problem.

'Kill Me or I'll Kill You,' Says the Murderous House Fly

IF YOU saw a man murder a sick baby you would be his eternal enemy. Flies kill many sick babies every year—just how many nobody is able to say. But you consider the fly menace of trivial importance.

Physicians who realize the peril of flies realize that if the average layman could see a fly commit its many crimes just as they do the life of the insect would be short. Therefore a campaign of education to suppress it has been begun.

Here are a few facts about the death-dealing insect accumulated by Dr. G. A. Jordan, health commissioner of St. Louis: The fly lays its eggs on any organic matter, preferably on stable refuse.

The eggs number about 120 at each laying.

These eggs become fully developed flies in about twelve days.

There are ten to thirteen generations in one season.

One small pile of stable refuse can produce a crop of 500,000 flies.

Neglected garbage and dead fowls and animals also are favorite breeding places.

The descendants of one pair of flies from April to September can amount to 5,598,720,000,000 flies. These are figures of the United States government.

These figures are based on each female fly laying only one batch of eggs when she may lay four batches.

More than 60,600,000 germs have been actually found on the body of one fly.

The new-born fly begins to lay eggs when 2 weeks old.

If all flies descending from one pair should live and breed their descendants would bury the entire earth forty-seven feet deep.

Virtually every fly in a city was born in that city.

The fly by his habits is attracted to and crawls over and feeds upon all kinds of dirt and carries this upon his body and legs.

Germs cause disease just as seeds cause flowers when either is planted in proper soil. Your body or the body of your wife or child may be proper soil.

What is the use of screening your house and then going out and buying food upon which filthy flies have crawled?

All flies will go into a trap if there is no other food about.

A fly seldom travels over two city blocks from his breeding place unless carried on food, the back of a horse or in a conveyance upon which he happens to alight.

Any fermenting or rotting material attracts flies. They also are fond of milk, fish and sweets.

The fly is a voracious feeder, often swallowing one-half its body weight at one meal. It feeds continuously if food be present.

Keep your premises clear of any filth, of exposed garbage or other organic matter, especially manure. See that your neighbor also keeps his premises free.

Put out your fly trap early and keep it working every day. Have fly swatters scattered about your house convenient for use.

Screen every door and window and wipe



This, an Ordinary House Fly, May Carry 1,600,000 Disease Germs About It.

the wire of your screens with a cloth dampened with coal oil. This preserves the wire and keeps the fly away.

The mosquito is responsible for every case of yellow fever and malaria that ever existed, because these two diseases can only be conveyed from man to man through his bite.

We are just commencing to realize the deadly possibilities of the fly in conveying such deadly diseases as typhoid fever, tuberculosis, infantile paralysis and other fatal maladies that have laid millions in their graves.

The fly, eating from the same plate as you are, may be carrying upon his body, feet and legs a million germs.

Wild, dangerous beasts and poisonous snakes are killed on sight. Flies kill more people in one year than wild beasts or snakes ever did. Most of such beasts and snakes never get an opportunity to kill a human being, but any of the millions of flies in every city has such a chance every day.

Germs on the body of a fly multiply faster than the fly does. Patronize the merchant who protects you by keeping the food he sells you screened from flies.

The solution of the fly problem is the destruction of the April fly. Every fly destroyed in April means swarms less in September.

Don't use fly poisons around places where children may come in contact with them. A fly poison is also a child poison. Use traps and swatters.

Where Roller Skates Originated

ROLLER skates were patented and used in France as early as the year 1819, and a few years later an Englishman named Syers patented them and manufactured them in England. Syers' skate consisted of a sandal mounted on five narrow wheels in a single row, so arranged, however, that only two of them could touch the floor at the same time. Several other similar skates were patented in England during the next forty years.

In 1865 Mr. Plympton of Boston patented a roller skate and inaugurated the

Fifteen minutes after flies had fed on a sugar saturated with typhoid bacilli their specks were found to contain thousands of the living bacilli.

We used to drink the milk from which a fly had been removed. Nowadays one had rather eat the fly, because most of the filth had been removed by his bath and was left in the milk.

The fly does carry disease and he can be eradicated. These are the two cardinal points to be remembered in the warfare now being waged upon him.

Do not leave the fight on the fly to others; do your part.

The common house fly does not bite; he sucks. Before he feeds he puts out a drop of saliva and sucks it back and forth until the substance he is feeding upon is dissolved. Would you like to eat after him?

If the fly carried only filth and not disease that would be enough to condemn him. You see the people living about you in spite of flies, but you forget the legions that are in their graves because of him.

If you saw a fly kill a little child you would be his eternal enemy. Because you cannot see him do this is no reason why you should be any less his enemy.

Just so soon as every one does his part on his own premises, just so soon will there be no more flies. When you fight the fly you are protecting yourself and your family and your neighbor and his family. The place to swat the fly is where he breeds, not where he basks.

first system of skating-rinks in this country. The first public skating rink was opened at Newport, R. I., in 1896. The skating craze spread from that city all over the country, raging most fiercely on the Pacific coast. There the amusement became so popular that the right to use the Plympton skate in San Francisco alone sold for \$25,000.

The craze died and was revived several times since. Its present popularity, especially among children who skate in the street and on the sidewalks, is growing.

How Bullets Telephone Their Location to Physicians

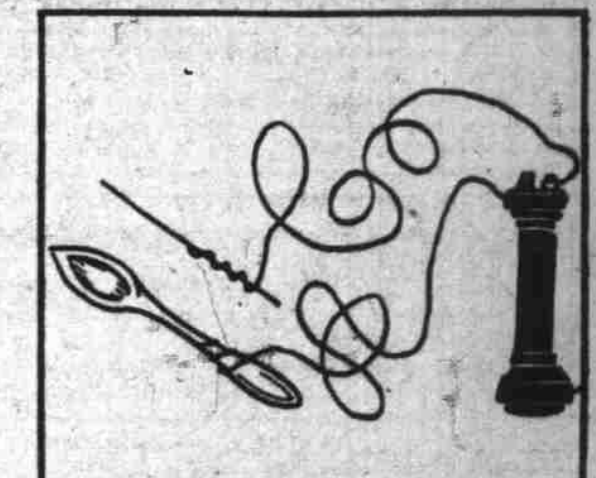
SURGEONS in the military hospitals of France are now making general use of all the most recently invented processes and apparatus for performing operations. Among these are the electro-magnetic and telephonic methods of finding bullets, fragments of shells or other foreign bodies in the human tissues.

The electro-magnet is useless in discovering lead or other metals that are non-magnetic, but whenever there is iron or steel, even in small quantities, in the object to be found it is most effective. Dr. Jacques Boyer describes in La Nature how some of this apparatus is used. Of the electro-magnet he says:

"The apparatus is placed in a frame above the patient. The surgeon, who must operate with nonmagnetic instruments (German silver or 25 per cent nickel steel), easily discovers the presence of the foreign body. The patient feels a characteristic pain and the skin is elevated in the form of a very pointed cone. Then he proceeds easily to the extraction of the fragments of projectiles under the skin or muscles."

The telephonic probe, invented by Professor Alexander Graham Bell, is in constant use today. Dr. Boyer says its beauty is its simplicity, for anyone can improvise such a probe at trifling expense. In its simplest form it consists of an ordinary

of any foreign body. The precise localization of such a body depends upon knowledge of the exact points at which a ray from the X-ray machine enters and leaves the body. Among the systems devised by the surgeons that of Dr. Jaugeras is one of the most precise. Suppose he has to find a bullet in a man's head, for example. He places the patient, immobilized in a certain position, before the screen and sets the X-ray bulb at such a height that it casts the shadow of the bullet on the screen. With a pencil having a metallic point that makes it clearly visible on the screen he marks on the patient's skin the point A, at which the ray enters, and the point A1,



This Is the Telephonic Probe Invented by Alexander H. Bell.

B, at which the X-ray enters, and B1, at which it emerges. Thus he gets the two extremities of a second line somewhere on which the bullet lies. The precise situation of the bullet is at the point of intersection of these two lines.

The surgeon now fits a flexible ring of metal around the patient's head at the height of the four points and marks these upon the ring, which represents a section of the patient's head. Removing the ring, he marks its outline upon a sheet of paper and rules straight lines from the points A to A1, and from B to B1. The point at which these lines intersect is where the bullet lies. His knowledge of the anatomy of the skull and brain enables him to decide where most effectually to open the man's head, and how most safely to enter the brain and cut out the bullet.

The same principle is applied to other parts of the body.



The Telephone Probe Is Shown Here in Actual Use.

at which it emerges. Thus he gets the two extremities of a straight line somewhere on which the bullet lies. Then he turns the patient through a certain angle, but keeps the bulb and the screen in the same positions. Again he marks the points

Facts You May Not Know

THE eyes of a South American fish are divided into two parts, the upper adapted for vision in the air and the lower for use under water.

A BATHROOM towel rack made of pipe to be connected with the hot water system has been invented to insure a supply of warm and dry towels.

ACCORDING to English figures, the world's consumption of tea is steadily increasing and the demand for British tea far exceeds the supply.

AWYOMING inventor's can opener consists of a pointed shaft, to be inserted into the center of the top of a can, along which is a wheel with a knife edge to be rolled around the can.

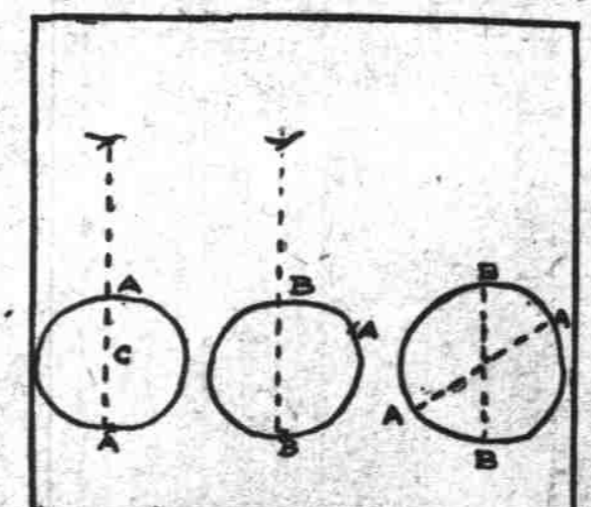
TO ENABLE a person to clean his shoes before entering a house a Kentuckian has invented a scraper above which are mounted two brushes, backed by springs strong enough to make them effective.

IN GERMANY there has been patented a method for making paper re-enforced by cotton or linen, a sheet of the fabric being inserted between two layers of pulp, with which it mixes intimately.

MEASURING the current carried from electric wires by streams of water from fire hose, an Italian experimenter found that chemical extinguishers were the most dangerous fire fighting equipment to use around live wires.

A SHOWER bath that can be carried in a vest pocket, the invention of a Californian, consists of a curved tube to be inserted into a bath tub faucet through a cork, water spraying out through a slit in the other end.

AN ENGLISH scientist who has been investigating the oil-bearing deposits of New Guinea has found evidences of petroleum extending over an area of 1,500 square miles and has recommended immediate development.



How a Bullet in the Head May Be Located by Radioscopy.

telephone receiver with two wires, to the end of one of which a silver spoon is attached and to the other a slender copper or steel rod. Dr. Garrel's method of using it is to inject cocaine-adrenalin into the wound, place the spoon in the patient's mouth, hold the receiver to his own ear with his left hand, and with his right insert the probe into the wound. The instant it touches the object sought the surgeon hears a click, for an electric current has been formed by the chemical action of the juices of the body upon the two metals.

Dr. Girdner has perfected this apparatus by substituting a head gear with two ear pieces for the single telephone receiver, in order to leave both the operator's hands free.

The X-rays are being used now in all the hospitals for finding the exact situation