WERE FOUND BY ACCIDENT.

A GREAT MANY FAMOUS INVENTIONS DUE TO CHANCE.

Gunpowder, Telescopes and Steam Among Them—How Edison Got on the Track of the Phonograph.

Many things of the greatest service to the world in general owe their origin entirely to chance. The rubbing of a piece of amber "evoked" to use Faraday's words, "an invisible agent, which has done for mankind far more wonderful things than the genie of Aladdin did or could have done for him;" the up-forcing of the lid of a cooking vessel discovered the marvellous power of steam, and the falling of an apple from its parent stem demonstrated the law of natural attraction. The simple swinging to and fro of a suspended lamp gave birth to the application of the pendulum, to which the precision of modern astronomy owes so much; while the finding of the natural magnet loadstone, "did more," said the grave philosopher John Locke, "for the supplying and increase of social commodities than those who built workhouses."

The manufacture of gunpowder, according to Sainte Foix, was thus revealed. An Augustinian monk, Barthold Schwartz, having put a composition of sulphur and saltpetre in a mortar, it took fire, and the stone that covered it was blown off with great violence, which accident led the chemist to think it might be used to much advantage in attacking fortified places. He accordingly added to it a quantity of charcoal to render it more apt to take fire, and increase combustion.

Leaden shot are attributed to a Bristol plumber, who, one night about the year 1783, "had a dream, which was not all a dream," that he was out in a shower of molten lead, which fell in the form of spherical drops. His curiosity being aroused, he went next day to the top of a church, and poured some melted lead into a vessel of water lying below. To his great delight, he found that the lead had gathered into beautifully-formed globular balls, and he at once

TOOK OUT A PATENT.

A Nuremberg glass-cutter happened to let some aquarortis fall upon his spectacles and noticed that the glass was corroded and softened where the acid had touched it. Taking the hint, he made a liquid, then drew some figures upon a piece of glass covered them with varnish, applied his corroding fluid, and cut away the glass round his drawing. When he removed the varnish, the figures appeared raised upon a dark ground; and etching upon glass was added to the ornamental arts.

One day nearly three hundred years ago a poor optician was working in his shop in the town of Middleburg, in the Netherlands, his children helping him or amusing themselves with the tools and objects lying about, when suddenly his little girl exclaimed: "Oh, papa, see how near the steeple comes!"

Anxious to learn the cause of the child's amazement, he turned towards her, and saw that she was looking through two lenses, one held close to her eye, the other at arm's length; and calling her to his side, he noticed that the eye lens was plano-concave, while the other was plano-convex. Taking the two glasses, he repeated his daughter's experiment, and soon discovered that she had chanced to hold the lenses apart at the proper focus, thus producing the wonderful effect that she observed. His quick wit saw in this a wonderful discovery, and he at once set about making use of his new knowledge of lenses. Ere long he had fashioned a tube of pasteboard, in which he set the glasses at their proper focus and so the telescope was invented.

The following year; 1609, Galileo, while in Venice, heard of the discovery; and, being greatly struck with the importance of such an instrument, soon discovered the principle of lenses in a shifting tube, and made a telescope for his own use. To having been the first astronomer in whose hands so valuable a gift was placed, Galileo owed both his reputation and persecution.

Among the many traditions concerning William Lee and

THE STOCKING-FRAME

is one that he was expelled from the university for marrying, and that, being very poor, his wife was obliged to contribute toward the housekeeping by knitting. It was while watching the motion of her fingers that he conceived how to imitate those movements by a machine.

Arkwright accidentally derived the idea of spinning by rollers from seeing a red-hot bar elongated by being passed between two rollers.

The ordinary practice of taking a bath solved for Archimedes the question of how to test the purity of the gold in Hiero's crown. He observed that when he stepped into a full bath the quantity of water which overflowed was equal to the bulk of his body, and it occurred to him that the worth of the crown might be tested by such means. He thereupon made two masses of the same weight, as the crown, one of gold the other of silver, and immersed them separately in a vessel filled to the brim, measuring exactly the quantity of water that overflowed in each case. Having found by this means what measure of the fluid answered to the quantity of each metal, less in the case of the gold than of the silver—the bulk of the former being less, weight for weight—he next immersed the crown itself, and found that it caused more water to overflow than the gold, but less than the silver. Having found the difference between the two masses of pure gold and silver, in certain known proportions, he was able to compute the real quantity of each metal in the crown, and thus discovered the fraud that had been practised on the King, to whom he hurried, exclaiming, "Eureka! Eureka!" "I have found it! I have found it!" an exclamation that has ever since been used to express exultation over a discovery.

Coming down now to our own time, the account of the

DISCOVERY OF SACCHARINE,

one of the numerous by-products of the gas-maker's refuse, whose sweetness is three hundred times more intense than that of cane-sugar, reads almost like a romance.

Dr. Fahlberg had entered the Johns Hopkins University in America, in order to devote himself exclusively to a study of the chemistry of coal-tar derivatives. Some months had passed, when one evening at tea time he detected an intensely sweet flavor upon his bread and butter. He traced the sweetness to his fingers, to his hands and to his coat' sleeves; and it dawned upon him that it must have been derived from one of the new compounds which he had that day succeeded in producing. He promptly returned to his laboratory, and tasted the contents of every vessel with which he had been working. His idea was correct. One of his beakers contained the sweet material.

Professor Rontgen came upon his marvellous "X" rays—which have opened out new fields of research in physical science, besides being of farreaching practical utility in surgery, and other departments—quite by chance. He was experimenting in the dark with a Crooke's vaccum tube, which was covered with some sort of cloth. A strong electric current was passed through it, while close by was some prepared photographic paper, but no camera. Next day he noticed several lines on this paper, for which he could not account. By restoring everything to exactly the same condition as on the preceding day, he was able to ascertain the real origin of these mysterious marks.

"I was singing," says Mr. Edison, "to the mouthpiece of a telephone, when the vibration of the voice sent the fine steel point into my finger. That set me thinking. If I could record the actions of the point, and send the point over the same surface afterwards, I saw no reason why the thing should not talk. I tried the experiment first on a strip of telegraph paper, and found that the point made an alphabet. I shouted the words "Halloa! halloa!" into the mouthpiece, ran the paper back over the steel point, and heard a faint "Halloa! halloa!" in return. I determined to make a machine that would work accurately, and gave my assistants instructions, telling them what I had discovered. They laughed at me. That's the whole story. The phonograph is the result of the pricking of a finger."

HOPE.

Dollie—My music teacher says I have the most remarkable voice he ever heard for one of my age.

Nellie—I've noticed it, dear; but you should not worry about it—you're young yet.

Dollie—Why, what do you mean?

Nellie—The chances are that you will outgrow it in time.

TO CURE A COLD IN ONE DAY.
Take Laxative Bromo Quinine Tablets. All Druggists refund the money if it fails to Cure. 25c.

SIGHTS OF TWO EYES.

The two eyes really see two objects. If the two forefingers be held, one at the distance of one foot, the other two feet in front of the eyes, and the former be looked at, two phantoms of the latter will be observed, one on each side. If the latter finger be regarded, two phantoms of the nearer finger will be observed mounting guard, one on either side.

AMICABLE ARRANGEMENT.

The Wife—Don't you think it is about time we were declaring our independence of our parents?

The Husband—I'd rather make some sort of autonomy arrangement—we will be boss in our own home, and let them continue to pay the bills.

A LONG WALK.

Good Friend—I have reason to suspect that your husband is flirting with other women. You ought to follow him wherever he goes.

Great Heavens! My husband is a letter carrier.

LIKE SOME OF HER ELDERS.

Every morning on the way to school said the little miss, the boys catch me and kiss me.

Why don't you run from them? asked her father.

Because, replied the small edition of Eve, maybe they wouldn't chase me.

A JUVENILE FINANCIER.

That eight-year-old boy of Bondclipper's is a chip of the old block.

In what way?

He's treasurer of his Sunday-school class, and all the pennies that come into his hands he loans to his mother at fifteen per cent.

THE USUAL WAY.

Bessie—Have you finished that novel?

Lena—Yes, but I haven't begun it yet.

Is is true that Pidger is financially embarrassed? He is awfully in debt, but it doesn't seem to embarrass him a bit.

How About Your Blood

Is it pure, and is your skin clear, fresh and fair? Or do you have pimples, blackheads, boils, sores and eruptions? Hood's Sarsaparilla will make your blood pure. It will cure all blood diseases, give you a good appetite, strengthen your nerves and make you feel strong and healthy. To-day buy and begin to take

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Hood's Pills act easily, effectively. 25 cent.

SUMMER SMILES.

Some girls keep a diary, remarked the observer of men and things, while others destroy it the following year.

Banks has four unmarried daughters. Well, it might be worse, you know. It is worse. He has a fifth one married to a count.

Margie, whose mother had forgotten to prick the upper crust of her pie—Oh, mamma, look! You haven't made the buttonholes.

Mrs. Joggins—Willy, has your mother been buying a new rug? Willy—Yes. You wouldn't know there was a hole in the carpet now, would you!

None but the Brave—Could you love a man who was cowardly, Julia?" Well, I should want him to have courage enough to propose.

A Theory—What a number of consonants they use in the Russian language! Yes; whoever originated the Russian language must have got it "pied."

Jimmy—Is your aunt on your mother's or your father's side? Tommy—Sometimes on one and sometimes the other. It depends on who is getting the best of it.

She—A captive bee striving to escape has been made to record as many as 15,540 wing strokes per minute in a test. He—No wonder the bee is called busy.

A Receptive Pupil—Mistress — Bridget, these are ewers. I hope you'll not call them jugs any more. Bridget—Thank yez, mum. Sure, an' is these cups mine, too.

Cause and Effect—What's the matter between Slims and his wife? They only seem to speak when it is absolutely necessary. Oh, she belongs to a cooking-school, and every time she prepares a meal by way of experience he refuses to say grace.

The Moon's Influence.

Upon the weather is accepted by some as real, by others it is disputed. The moon never attracts corns from the tender, aching spot. Putnam's Painless Corn Extractor removes the most painful corns in three days. This great remedy makes no sore spots, doesn't go fooling around a man's foot, but gets to business at once, and effects a cure. Don't be imposed upon by substitutes and imitations. Get "Putnam's," and no other.

HIS STATUS.

Askins—What do you think of Puffington?

Grimshaw—Oh, he is the kind of a man who thinks that when he steps on one end of the country the other end flops up in the air.

Beware of Ointments for Catarrh that contain Mercury.

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, O., contains no mercury and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally and made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free.

Sold by Druggists, price 75c. per bottle.
Hall's Family Pills are the best.

HER VIEW AND HIS.

She—What an imposing figure Major Borrows has.

He—Oh, yes; naturally so.

She And why naturally?

He—He's always imposing on some one.

ALBERT THOMAS' PHOSPHATE POWDER (REGISTERED)

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MEASURING.

The Fair One—I suppose you will marry, though, when the golden opportunity offers, won't you?

The Cautious One—It will depend upon how much gold there is in the opportunity.

THE REQUIREMENTS.

She—It requires money to get into society nowadays.

He—Yes; and it requires brains to keep out of it.

TERMS.

Bond—Don't you realize that marriage broadens a man?

Benedict—Oh, yes; I suppose it can be put that way, but "flattens" is the word I've always used.

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