A GREAT MANY FAMOUS INVEN-TIONS DUE TO CHANCE.

Cunpowder, 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 violence, which accident led the chemist to think it might be used to much advantage in attacking fortified places. of charcoal to render it more apt to origin of these mysterious marks. take fire, and increase combustion.

the year 1783, "had a dream, which was me thinking. If I could record the acnot all a dream," that he was out in a shower of molten lead, which fell in no reason why the thing should not the form of spherical drops. His curi- talk. I tried the experiment first on osity being aroused, he went next day to the top of a church, and poured some below. To his great delight, he found over the steel point, and heard a faint that the lead had gathered into beautifully-formed globular balls, and he at

TOOK OUT A PATENT.

to let some aquarorus fall upon his finger." 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 bint, he made a liquid, then drew some figures upon a piece of glass covered them with varnish, applied his corrodling 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 a piece of glass covered the most remarkable voice he ever the most pain ful corns in three days. This great full corns in three days. The local days are also full corns in three days. This great full corns in three days. The local days are also full corns in three days. The local days are also full corns in three days. The local days are also full corns in three days. The figures upon a piece of glass covered the most remarkable voice he ever Upon the weather is accepted by some glas; was added to the ornamental arts.

One day nearly three hundred years outgrow it in time. 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 the distance of one foot, the other two her eye, the other at arm's length; and feet in front of the eyes, and the on one end of the country the other end 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 him wherever he goes. a gift was placed, Galileo owed both his reputation and persecution. Among the many traditions concern-

ing 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 ed her father. knitting. It was while watching the motion of her fingers that he conceived Eve, maybe they wouldn't chase me. 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 at fifteen per cent. 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 | yet. 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! 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

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 a hole in the carpet now, would you! 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 enough to propose. electric current was passed through it, while close by was some prepared phocovered it was blown off with great tographic paper, but no camera. Next nants they use in the Russian landay he noticed several lines on this guage! Yes; whoever originated the paper, for which he could not account. Russian language must have got it By restoring everything to exactly the "pied." same condition as on the preceding He accordingly added to it a quantity day, he was able to ascertain the real

"I was singing," says Mr. Edison, "to the mouthpiece of a telephone, when Leaden shot are attributed to a the vibration of the voice sent the fine Bristol plumber, who, one night about steel point into my finger. That set tions of the point, and send the point over the same surface afterwards, I saw a strip of telegraph paper, and found that the point made an alphabet, I shouted the words "Halloa! halloa!" melted lead into a vessel of water lying into the mouthpiece, ran the paper back Thank yez, mum. Sure, an' is these "Halloa! halloa!" in return. I determined to make a machine that would work accurately, and gave my assistants instructions, telling them what only seem to speak when it is abso-I had discovered. They laughed at me. That's the whole story. The phono-A Nuremberg glass-cutter happened graph is the result of the pricking of a

HOPE.

Dollie-My music teacher says I have

TO CURE A CULD IN ONE DAY. Take Laxative Bromo Quinine Tablets. All Drug-gists 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 former be looked at, two phantoms of flops up in the air. the latter will be observed, one on each side. If the latter finger be regarded, Beware of Ointments for Catarrh two phantoms of the nearer finger will be observed mounting guard, one on either side.

AMICABLE ARRANGEMENT.

The Wife-Don't you think it 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 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? ask-Because, replied the small edition of

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

THE USUAL WAY.

Bessie-Have you finished that novel? Lena-Yes, but I haven't begun it

Is is true that Pidger is financially embarrassed? He is awfully in debt, paint a barn in half a day. Write us for circulars and but it doesn't seem to embarrass him information about painting. The Finch Wood Preserva information about painting. The Finch Wood Preserva hit.

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I have found it!" an exclamation that Is it pure, and is your skin clear, fresh has ever since been used to express 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

that of cane-sugar, reads almost like Hood's Sarsaparilla

Canada's Greatest Medicine, and be cur'd. 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 I 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

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

A Theory-What a number of conso-

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

A Receptive Pupil-Mistress - Bridget, these are ewers. I hope you'll not call them jugs any more. Bridgetcups mine, too.

Cause and Effect-What's the matter between Slims and his wife? They lutely 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.

Nellie-The chances are that you will 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 Puf-

Grimshaw-Oh, he is the kind of a man who thinks that when he steps

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 prescription: 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. Testi-

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

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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.

riage 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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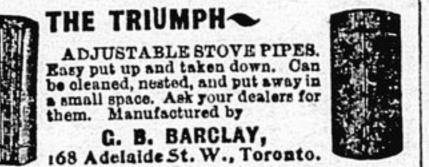
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