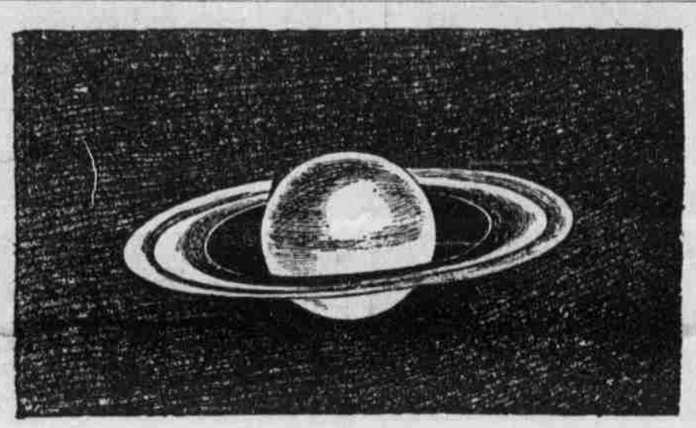
RINGS OF SATURN.

M. FLAMMARION DISCUSSES THE RECENT DISCOVERY.

Made Up of Particles—A Theory Long Held by Astronomers Now Fully Confirmed by Prof. Keeler.—the American Savant.

AN AMERICAN Astronomer, Professor Keeler has just made at the Mount Alleghany observatory, not a discovery, as the newspapers allege, but a very remarkable verification, a practical verification, of a theory which had long been received concerning the rings of Saturn. These curious rings, which constitute a phenomenon unique in the solar system, are neither solid, nor liquid, nor gaseous. They are composed of an innumerable quantity, of millions and millions of distinct particles—what we might call cosmic dust. To conceive their exact form, we must imagine the globe of Saturn isolated in space and surrounded, at a certain distance round its equator, by a very wide, flat wreath. It is as if we were to place round a globe a circle of cardboard in which a place had been cut for the globe. The ring does not touch Saturn at any point; it is suspended in space at a distance of 15,000 kilometres. Its thickness does not appear to exceed 100 kilometres, and when its surface is considered, it will be seen that it is like a sheet of cardboard. It is divided into three zones or three principal rings. The outer one gives a rather dull yellow light; that in the middle is very bright, while the inmost one, on the contrary, is obscure, like a veil of crepe, and fairly transparent, for the planet may often be distinguished through it. Readers know, moreover, that Saturn and his rings possess no light of their own and only shine by the light of the sun, which they receive and reflect into space.



PRESENT ASPECT OF SATURN.

The aspect of Saturn and his rings varies constantly for the terrestral observer on account of the changes of perspective caused by the continual displacement of the earth and of Saturn itself. Sometimes this curious system only shows its edge to us, and then one can only distinguish a very thin line passing in front of the planet and extending beyond on the east and the west. Sometimes they appear to us very open, and then we are better able to study their disposition. We never see them from the front, because we are never in the prolongation of the axis of the planet. In that case they would appear to us to be perfectly circular, as they really are. The present aspect is that which is represented in the cut Figure 1, which has been expressly drawn by M. Moreaux, at the observatory of Juvisy.

It is interesting to note the exact dimensions of this marvelous system, besides which the earth is nothing but a poor little cottage. Here are a few exact figures:—

	Kilometres.
Half diameter of the earth.....	6,371
Half diameter of Saturn.....	59,250
Distance of Saturn from the inner ring	15,000
Width of the inner ring.....	18,000
Width of the central ring.....	27,700
Width of the outer ring.....	19,000
Total width of the rings.....	64,700

To this system, already so rich, must be added a cortege of eight satellites gravitating round the planet, outside the rings. You see, it is quite a universe!

It had been thought that this system of rings was solid, but Laplace demonstrated that if it were thus there would be no condition of stability, for to maintain itself in space it would be obliged to turn rapidly round the planet, as the moon does round the earth, and, in consequence of its enormous dimensions, if it turned all in one piece the exterior zone would have had to turn much more rapidly than the interior one, which would have brought about the dislocation of the system.

It was also thought that they might be liquid, which would give a comparative independence to the different zones, and when the interior transparent ring was discovered astronomers were at first inclined to look upon it as of air, fluid formed of a sort of atmosphere. But the absence of any refraction on the one hand and mechanical considerations on the other soon proved that the three rings could only be formed of independent particles. This theory is a very old one, having been propagated nearly two centuries ago by Cassini, the first director of the Paris observatory under Louis XIV. It was also mathematically demonstrated in 1856 by Professor Clark Maxwell, of the Royal Astronomical Society of London.

BORAX FRUIT PRESERVER.

Experiments Have Given Surprising and Pleasing Results.

Frank M. Smith, the borax king, believes that he has solved the problem of preserving fresh fruit so it can be put on the eastern market in a satisfactory condition. For some time he has been experimenting with borax and finds the ingredients of that salt adapted for precluding vegetable decomposition. The discovery is the result of a suggestion made to Mr. Smith one day while lunching with a friend. The gentlemen were discussing the success that had attended the experiment of boraxing fresh meat, when Mr. Smith was asked why he had never tried preserving fruit in the same way. He said it had never occurred to him, but that afternoon he gave the matter so much thought that as soon as he returned to his home in East Oakland he packed several pounds of cherries in a box of powdered borax. This box was placed in the cellar and alongside of it he placed a large glass dish filled with the same kind of fruit. Then he awaited developments. The next day he visited the cellar and found the cherries in the dish were beginning to turn. In three days they were so decomposed that it was necessary to throw them away. In order to make a good test he determined not to disturb the packed cherries for three weeks. At the termination of that time the box was opened and the fruit was as fresh and in as good a condition as when he first placed them there. Mr. Smith was amazed, and he was delighted over the result, and determined to experiment on a larger scale. He had a quantity of cherries packed in a barrel of borax and sent to Chicago by slow freight. Last week he received a telegram saying the fruit had arrived in perfect condition and was bringing surprisingly high prices. Since then a number of barrels of cherries have been packed in borax, and are now ready for shipment east.

As fast as the different varieties of fruit ripen experiments will be made by Frank C. Haven at Rose Crest Villa, his place at Vernon Heights, Oakland. The experiments will be on an extensive scale. As the experiments on the different fruits prove successful barrels of the fruit will be packed and sent to the east and Europe. Whenever an experiment is pronounced successful it will be published for the benefit of growers and commission men who may wish to preserve their stock.

"There is no patent on this discovery," said Mr. Smith. "It is free to all, and I regard it of the utmost value in the working out of the problem of domestic economy. The same borax can be used over and over again, and think of the amount of unnecessary domestic waste that will be avoided by preserving fruit this way. Private families, as well as hotels and restaurants, can have their borax bins at small expense in which they can constantly keep an assortment of fresh fruit. The experiment is as yet in its infancy, and I am loath to claim too much for it, but from the tests we have made it is reasonable to believe the system of borax preserving will play an important part in the commercial world."

Saved by an Elk.

A curious story of adventure comes from Montana. While a freight train was lying over at a small mountain station the engineer borrowed a shotgun and started out for a short hunt. He was about returning to his train when a cow made her appearance. Before he realized that there was any danger, the animal made a rush at him, and he ran with all his speed. But the cow was a better racer, and in a few minutes caught him by his clothing, splitting his coat from waist to collar and tossing him into the air. Getting to his feet as quickly as possible he dodged behind a tree, and then, to his dismay, found that the gun barrel was bent so as to be useless. The next ten minutes were very lively ones. The cow chased the engineer round and round the tree, and when he got a chance to hit her with the gun barrel it only seemed to enrage her the more. It was only a question of time when he would succumb to fatigue, but a diversion occurred that saved his life. An angry snort was heard, and a big elk appeared upon the scene, head down, and prepared for a fight. The cow was so mad by this time that she was ready for anything, and in another moment the two animals dashed at each other. The engineer watched the combat for a few minutes until prudence suggested that he should make a retreat while he could. He regained the train in safety, and never knew the outcome of the battle, but the presumption is that the elk was the victor.

AN AUSTRALIAN TOWN.

The Railway That Was to Have Made the Kiamesses' Fortune.

As we look away from the cliff, dazed with color and drunk with ozone, the eye rests gratefully on a placid undulating landscape spread out in varied tints of green, says the Westminster Review. Sleek horses are rolling on verdant slopes that kiss the blue waves; dark "coral" trees, spreading like cedars, crown the heights here and there; while gleaming villas and cottages, clustered amidst luxuriant foliage, indefinably suggest a Normandy village. Down in the hollow lies the little town proper, trim, white, about the size of a table-cloth. Yet the miniature place has pretensions of its own and justifies them by supporting three doctors, seven dentists, half a dozen well-appointed hotels and an imposing Italian architecture—all tangible consequences of those "great expectations" which Kiama and its railway have so far failed to realize. That railway was to have made the fortune of the Kiamese. As soon as its advent was announced they looked with profound disdain on the tiny harbor and diminutive steamers which had hitherto brought them in contact with the outer world; they proposed to cut a dash, become fashionable and excite the envy of adjoining townships by their commercial prosperity. Hitherto the prosperity had been of the quietly picturesque order; fat farmers, jog-trotting down the hillsides on sleek nags and leading other horses, pannier-laden, deposited pats of sweet butter and snowy eggs on the Sydney steamer and then, feeling that life, with a bi-weekly packet to rejoice over, was full of zest, gathered in groups to interview stray arrivals and discuss city news—greatly to the advantage of the obsequious publican. But the railway was to change all this; the railway was to make Kiama its terminus, to shower daily papers and gay visitors on the little town and turn Sleepy Hollow into a scene of bustling activity. As it happened, the railway did nothing of the kind; it shot ahead to its present terminus, Nowra, utterly ignoring the rival claims of Sleepy Hollow. The farmers ceased to amble down with their market baskets, but the visitors came not, nor the bustle, and the day is far distant when the Sydney paterfamilias shall bring his olive branches, with their spades and pitchers, to the sore discomfort of the dreamy idler. Meanwhile Kiama makes the most of its weekly auction, where horses and buggies are sold at the foot of the lighthouse hill, and of its one yearly dissipation, the agricultural show held on the heights behind the town.

SCARING A DOG.

But the Experiment Can Hardly Be Called a Great Success.

Bill Jones, of Happy Valley, came into the office the other day and said he had found out a good way to scare a dog, says the Fairhaven News. He said he didn't see any sense in wanting to shoot a dog or be cruel to dumb brutes by poisoning 'em when there were ways enough to just scare 'em and in that keep 'em from bitin' you. He said, just to show his good faith before we printed the recipe in the News, we might go down street past Oldfeller's place and try his dog once. So we started out with him. Jones took his umbrella and as we walked along he showed us how the old thing worked. He asked us to walk just ahead and he played we were in the position of the dog and wanted us to growl. When we made a noise he rushed at us with the umbrella, opening and shutting it in rather a startling manner. By and by we reached Oldfeller's place, but didn't see the dog. Then Jones growled like and shouted, "Sic 'em. Towser!" In about a second and a half Towser came flying around the fence corner and Jones just had time to lower his umbrella when the charge was made. Towser made a rush like a trolley car a half block ahead of you. Jones parried and worked the slide on the umbrella handle. The next instant the dog had a mouthful of a four-dollar umbrella cover and two ribs out of the same. Jones expectorated a mouthful of tobacco juice in Towser's eye and then told him he could have the remainder of the water cover, his remarks all prefaced with adjectives never used in prayers. We didn't return to the office together and Jones said if we ever printed the recipe or made any metion of the experiment the A. O. U. W.'s would lose a couple of thusand on us and have a day off for a funeral.

The Englishman's Neatness.

Americans are often puzzled to account for the neatness of attire which distinguishes most English gentlemen. Few will deny that as a rule Englishmen are always well dressed. The following information comes directly from an English source, and has the weight of preponderent logic on its side:

"Most Americans buy one suit and wear it until they buy another—that is, after the first is worn too much to appear genteel. In England we do the thing different. Instead of one suit we buy three or four, or perhaps half a dozen at the same time. We wear one suit to-day and another to-morrow, changing as often as the fancy takes us. Result, neatness and variety, what is called being well dressed. It costs a little more to start with, but it is economy in the end. After the first cost, it takes no more to keep up the supply than to buy single suits, as it is only necessary to add a single suit at a time."—Washington Post.

Mrs. Langtry's Jewels.

Mrs. Langtry's jewels are valued by experts at over $850,000.

VICTIMS OF JOKES.

STORIES OF PEOPLE WHO ORIGINATE HOAXES.

How the Late P. T. Barnum Fooled People and How He Was Fooled—The Big London Hoax—A Joker in the Mines.

TO-DAY'S generation is familiar with the accounts of profitable hoaxes perpetrated on gullible members of the community by crafty advertisers offering for 50 cents "a superbly executed steel engraving of George Washington," and sending to the victim a 2-cent stamp bearing a steel likeness of the immortal George, or that equally profitable advertisement which stated that, for half a dollar, any one would be taught how to write without pen and ink, and the unsophisticated sent in his money, only to be told to write with a lead pencil.

These and many more devices to catch the guileless members of society are all well known, but the interest that attaches to them does not surpass the extraordinary hoaxes perpetrated by notable characters in other days.

There was Barnum, he whose name will be forever associated with shows. He once announced on his circus posters, in flaming letters, that "the greatest show on earth would exhibit in the afternoon of that day a special and extraordinary feature, a wonderful freak of nature—a miraculous horse, with his head where his tail ought to be!"

The public swallowed it; people fell over each other to get into the circus tents to see the most marvelous animal on the face of the earth; and they saw it—simply a common, everyday horse backed into his stall, with his head where his tail usually appears.

While the late showman succeeded in humbugging the public in this way, he was also trapped himself by a practical joker. It was during his initial days in managing a circus, when he was showing in a country town, that, unknown to him, a commercial traveler stopped in the same place and conceived the idea of fooling Barnum. Collecting a crowd of twenty people, the drummer told them that he was going to pass them into the show free and that all they need do was to follow him, which they gleefully did. Arriving at the tent, where Barnum was busy taking tickets, the drummer rushed up to him with a handful of cards and said:

"Just count these men as they pass in, ending with the one wearing the straw hat."

"All right," and Barnum began: "Three, six, nine," and so on, while they passed by him and were quickly lost in the crowd. Soon the straw hat came along.

"Twenty," bawled Barnum, and turned round for the tickets, but the gentleman who had requested him to count was not there. Barnum saw that it was too late to search for the twenty who had faded inside the tent, and accepted the situation with philosophic resignation.

Different from this hoax was that of the joker in the mines. This Westerner was given to playing tricks on his "pards in the diggins'." One day his end came. His last words were:

"Dig under the big tree round the bend. I've buried $2,000 in gold there. Send it to my widow in Ohio."

The miners at first were inclined to doubt the ante-mortem statement, suspicious that the ruling passion was strong, even in death, and that the joker had desired to fool them once more.

But, upon digging for the buried treasure, they were astonished to find the $2,000 in gold, just as the deceased had told them. The next thing was to find the widow. They made inquiries everywhere in Ohio, and at last discovered the truth—that the deceased had no widow, and that, while he had resisted the temptation to fool his friends long enough to inform them of his hidden gold, he had repented in the end and fooled them again.

The year 1860 witnessed an extensive hoax in England. A vast number of people in London received through the post a card bearing the following inscription, with a seal marked by an inverted sixpence, thus bearing to superficial observation an official appearance:

Tower of London—Admit the bearer and friend to view the annual ceremony of washing the white lions on Sunday. Admitted only at the white gate. It is particularly requested that no gratuities be given to the wardens or their assistants.

The trick is said to have been highly successful. Cabs were rattling about Tower Hill all that Sunday morning, vainly endeavoring to discover the white gate.

A Ludicrous Mistake.

A cyclist who had lost his friend asked an old woman if she had seen a man on a bicycle along there. She answered: "No, sir; but I saw a man mending umbrellas at the top of yon lane." The cyclist went up the lane, and was amused to find that the "man mending umbrellas" was his friend, who had come a cropper and was sitting among the ruins of his machine.—Comet Aster.

An Old Ex-Senator.

The Hon. J. W. Bradbury, formerly United States senator from Maine, celebrated his ninety-third birthday a few days ago at Augusta. He was born at Parsonfield in 1802, and was elected to the United States senate in 1843, serving six years.

IN A WARM CLIMATE.

Some of the Discomforts of Living in a Place Like Guerrero.

Mr. F. R. Guernsey, describing in the Boston Herald a visit to Guerrero, says that the tarantula is sometimes found there as big as a man's two fists. Scorpions are of all sizes, but the one which does the most harm by its bite is a smallish gray creature. The larger ones bite so hard that the blood flows freely, and the infected poison flows off. There is a little snake called the corallilo, which is particularly fond of getting indoors and nesting in one's boots. Its bite is fatal. Boots should always be inspected for corallilos before they are put on—in Guerrero. If a scorpion creeps on the face or hands, the person visited should carefully refrain from making any movement; he should allow the horrible insect to crawl just where it will. If it is not disturbed, in all likelihood it will do no harm; if it is attacked it is quite sure to sting. The worst terror to the people of Guerrero is neither snakes nor scorpions, but the red ants. Before these insects the people flee in terror from their houses. They leave nothing behind if they can help it. An Indian woman rushed out of her cabin with her children on the coming of the ants being announced. In her terror she left her baby behind the house swinging in a hammock. It was hoped that it would escape; but when the ants had departed the mother found that the insects had crept down the cords of the hammock, and had left of the unfortunate child nothing but its bones. On some of the Guerrero sugar estates great lazy-looking snakes are kept in the store rooms to keep rats and mice away from the sugar loaves. These snakes are repulsive in appearance, but harmless to human beings. Not all the places in Mexico, however, which have an agreeable climate are cursed with insects and reptilian pests. Such places as Cuernavaca, in the State of Morelos, are too high above the hot plains to suffer from venomous insects, and yet so much below the cold tableland that the climate is a perpetual summer. Cuernavaca unites many of the advantages of the temperate zone with all that is delightful and alluring in the tropics.

THE FASHIONABLE CANINE.

The Blenheim Spaniel Is an Expensive Little Midget Beloved by the Fair.

The dog considered most desirable as a pet for a woman is at present the Blenheim spaniel, a tiny, ten-pound midget, with long fluffy ears and paws fringed with white. He is all lemon and white, and much prettier than the black and tan varieties of his family. He is worth all the way from $125 to $300 to the man who has raised him. The Japanese spaniel was a favorite this winter, and would be still if he could be persuaded to live long enough, but the climate or the food, or something in this country disagrees with him, and his owner seldom has the pleasure of his society longer than two or three months. This little foreigner is smaller, if any thing, than his English cousin, and is all black and white, and has a supreme advantage over the King Charles, the Prince Charles, and the rest of them in the matter of his tail, which is beautiful and long, and curls over his back. "The closer a Japanese spaniel's tail clings to his back the better his pedigree," said a dog fancier, stroking one of these pets approvingly. "He eats only fish and rice in his own country, and some people think that it is because his food is not prepared to suit him that he cannot live here. Be that as it may, I have known a number of people to use the greatest care in looking after his welfare, only to meet with disappointment in the end. Perhaps some lucky fellow may be able to hit on a specific for keeping him alive, after a while, and then he will make a fortune. I sold a Blenheim to a woman last week who would have been glad to pay a higher price for a Japanese if I could have guaranteed that he would stay with her over three months."

Journalistic Jottings.

A crack company—"Ceiling repairers."

It is the early babe that beats the alarm clock.

Room for improvement—A cell in the penitentiary.

The pun is mightier than the sword—it has killed more peole.

"Confidence is a plant of slow growth," but the bunco-man forces it.

Tailors say that the fast man is generally pretty slow about paying up.

When a man's temper gets the best of him it reveals the worst of him.

There is a vast amount of solid recreation about being lawless once in a while.

If any workman can hit the nail fairly on the head by striking, the carpenters should.

The mosquito will soon show the American people whether hides are free or not.

A cynic is a man who is disappointed because the world was all made when he got here.

Strawberries for the Face.

A Southern woman says that she has found it a good plan when coming in from a drive or a walk at this season to bathe the face in the juice of strawberries. It is cool and refreshing to the skin, and where the complexion is pale, adds a pretty pink tinge. The water in which oatmeal and bran have soaked are old-fashioned, yet excellent remedies for giving a smooth skin. Some country maidens use a concoction brewed from elder flowers to remove freckles. It is less harmful and more effective than many a newfangled drug.

GRASSHOPPERS $1 EACH.

They Were Made to Earn Their Value on the Bob-Tail Cars.

Bobtail cars were all the go in St. Louis at one time. They were not so popular with the people as with the companies, as they were small and inexpensive affairs, the driver acting in the dual capacity of driver and conductor, says the St. Louis Globe-Democrat. The fare-box at the forward end with its series of trap-doors and front and back of glass, was supposed to be an efficient device for the protection of the company's interests. At that time car tickets passed everywhere as currency. The peanut stands, the saloons and all retail stores accepted them at their face value for purchases. The drivers knew this, and some of them would evolve schemes to abstract the coveted tickets after they were deposited by the passengers in the box. This was no easy matter, as the inventor had so fixed its internal arrangements that robbing the box by a curved wire or any pliable instrument was deemed an impossibility. One driver took a live grasshopper and tied his two hind feet together to a piece of thread, so that he was helpless. The ingenious cuss would then pry open some of the slanting trap-doors with a small stick and slowly let Mr. Grasshopper slide over one door, through another, and so on down into the bottom of the box among the tickets. The hopper had the use of his four small legs, and when his master pulled the thread to which the insect was attached, the hopper naturally grabbed hold of some of the tickets. A grasshopper, when secured by the hind legs, will hold firmly with its fore legs to anything that comes within reach. As soon as the hopper reached the tickets he was pulled around the angles in the box and out, bringing with him from one to five or six tickets. The tapping was done at the end of the line or on some lonesome part of the road.

If the fellow who hatched the scheme had kept it to himself, perhaps the railway company would never have discovered his rascality. This chap had a long head and tried to make all he could out of his lucky find. He went into the wholesale grasshopper business. He knew that grasshoppers were not to be had in winter, therefore he laid in a supply. He fed them and took care of them. When Jack Frost cleared the fields of the chirpers he started out on a tour among the drivers. He was careful about sounding his man first, and to those who were willing to be tempted he showed how the trick could be done. He had the grasshoppers and would furnish them at $1 a piece. By taking care of the hopper it would be good for a week, no matter how cold the weather. He plied his trade with some boldness, and it eventually led to his downfall and a wholesale discharge of drivers on several of the lines.

ABOUT GOOD CLOTHES.

They Are an Index of Ourselves by Which Others Judge Us.

The business woman cannot afford to disregard the conventionalities of dress. She who is wisest and most far seeing follows in the wake of present-day fashions, avoiding exaggeration or absurdities so far and so long as possible, yet even adopting them when she finds herself forced to do so or remain conspicuous among women. Men have small patience with the woman who departs from conventional dress standards, nor have they much admiration for that other woman who holds all matters of dress in contempt and regards her clothes as a question of covering only. The woman whose dress is neat, stylish, becoming and suitable to the time and place is the woman with whom they like best to deal. They do not want diamond earrings to flash in their eyes when dictating to their stenographer, but they resent it as almost an affront to themselves if her dress is antiquated in pattern, ill-fitting and unbecoming. True, they have not deep objections to dress reform so long as it is cleverly concealed. They do not object to an uncorseted figure when the carriage is such that the lack of corsets cannot be detected; but they are very apt to make remarks about the poor woman who throws away her stays and does not learn to use her backbone. Good clothes may not be an essential to success but they are more or less of an idex of ourselves and it is only the women who are sure of their position in every way who can afford to let the index be misleading. Business women who are depending upon their own exertions for a comfortable livelihood dare not do so.

Collected for Both.

Here is a somewhat new story of the Niagara Falls hackman:

Two tourists, a lady and a gentleman, stopped off at the Falls between trains. A hackman engaged them for a brief tour of sight-seeing. The time actually consumed was fifty-five minutes. The hackman said he must have $10. The gentleman remarked that it was an outrage. The driver explained that he had been of great assistance in pointing out the places of interest and stood firm. The gentleman prepared to pay under protest.

Unfortunately for himself, he handed the man a $20 bill.

"Do you pay for the lady also?" asked the hackman, promptly.

"Do I pay for the lady?" repeated the fare, in astonishment. "Of course I do. What do you mean?

"Then there will be no change," replied the hackman. "My charge of $10 is for one person; $20 for two persons. The amount you have handed me is exactly correct. Thank you, sir."—Buffalo Express.