DANCES OF THE DAY,

The Oxford Minuet Popular Because it Combines Stateliness With Sprightliness.

SKIRT DANCING ON THE STAGE.

Otero Speaks a Word for Spain and Explains the Philosophy of the Terpsicherean Art.

THE MOVEMENT FOR NEW COSTUMES.

Golden Bands With Jewels for Fretty Ankles the Latest of the Social Fads.

Horace W. Beek, of Chicago, is the originator of the Ox ord minute, which has the approval of the American Association of Professors of Dancing. At a Kenwood mansion last week, says the Chicago Times, the new dance was tried on and accepted by the ultra-fashionables. "Position as for minute, 1, 2, 3, 4," said Prof. Beek, who was present on the occasion, and off the company glided, as accustomed dancers will. Then immediately the gallop balance and gallop in waltz position tollowed. The dance was accepted and the professor was so happy that he wanted to go ou; on the street and call every man "brother."

"I have so trequently been asked to introduce the minuet and everyone seemed so amous to dance it," said Mr. Beek, "I was convinced that the minuet would be a popular ballroom dance if relieved of part of its slowness or pokyness. It required more than two to dance it, and hence could not be popular at large gatherings. I set mysalf to overcome both these difficulties, and the Oxford is the result. One couple or 100 couples may dence it, the beauty of the dance is increased by the concerted motion of a large company. All must be together for uniquet with the music, and then off for the galop. It is thus stately enough to be enjoyed by ladies and gentlemen who could not and would not dance anything in poor taste. The minuet and also the galop have always been popular in good society, and I am aware that no matter how strongly our society itself must put its stamp of approval or disapproval upon it to make or ruin it.

THE LAUGHING DANCE-The "Mineaha," or laughing dance, is Prof. Augustus hournique's latest. Its name is intended to indicate its peculiar motion. It is a version of the glide-mazurka, and is danced to mazurka time in the first movement, in either military schottische or Berlin posi-Lon. The tempois of a polka-redown order. to which, i wished, the plain polks may be danced. Prof. Bournique believes that the already existing 1,100 figures or the german will be increased by several hundred unique and pretty ones this season.

INSANE ASYLUM DANCES-Every large and well equipped insane asylum of this entirely uncontrollable, and is approved by the most eminent of insanity specialists. The great State asylum at Columbus, O., every Thursday evening presents an inter-esting scene. At 8 o'clock the ballroom ors are thrown open. Down the halls, in charge of attendants, come the guests. The uch an institution is the saddest, for all this mental wrech!

The lunatics seem to realize that the balls are or their good. Many of them are inmem an evening with music, bright light, lowers and company is an enjoyment Others look forward to the affair as a chance or a good romp, and some seem to believe that they are going to dance simply because it is a part of their punishment and take it like a child does castor oil. Round dances to not succeed. Lunaties don't like them Quadrille after quadrille rounds out the evening of recreation.

THE BELLE OF LONDON-The full dress is not the proper thing for the belle of the ball in London this season, says a lady correspondent of the St. Louis Post-Dispatch. Pretty, disapled, rounded arms are to be d. At country-house dances and in all our preparations for later winter festivities, we are going in for pure womanliness in the shape of white crepe or embroidered mull from wrists to shoulders. The new dancing dresses are really pretty, with flower cardands looping their flounces and sprinkled

nessimists say that the large sleever will be bothersome in the dance. This may he, but they are certainly quaint and charming, especially as a relief from the familiar perspect ve of scrawny arms. By the way, it seems to be generally conceded that women are a creat deal better looking now than they used to be, but after all one is forced to allow that it doesn't yet need any large allowance of beauty to win for a girl with good backing the reputation of a reigning

FAD OF THE SEASON.-Each season brings with it its own particular "fad." The "tad" of the social season of 1890-91. says the New York Telegram, is an aukle hand of gold studded with gems for the beauty of the ball room. These ankle ornaments are decided novelties. Within the mast week or two several have been made b eading jewelers. The anklet o Cleopatra's realms-gathering reputation in East India nd Persia-from Circassian, Turkish and Egyptian women-has at last established tsel among our own sisters, who, of all women, possess the aculty of quick appre iation of the beauti ul.

The ornaments of modern construction differ widely from the well-known bracelet, in the act that they do not unclass by simply touching a spring, being provided with an ingenious sliding tube at each side of the circle, allowing the anklet to expand sufficiently to pass over the foot and then to clusp at any size necessary to please the wearer. This contrivance is adapted so that should the piece of jewelry come undone accidentally it does not tall to the floor, to e kicked away in the dizzy whirl of the all room, but remains in position on the

A rare piece of ankie jewelry, by Tiffany, s worn by Miss Vesta Hastings, who is well known for her exquisite taste in her great variety o costumes, rarely appearing in the same one twice throughout an entire month. This one is surely the handsomest one ever produced. Although apparently large it is very light in weight, the wearer hardly noticing the round hand of gold, studded with immense Persian turquoise. To the ront and posed between six rampant lion heads is another and very important tur quoise, secured in a beautiful setting of aminated gold ornament. The who face of the metal is a mass of carved dec-

It must be admitted that well shaped

fine shoes and the best stockings must be taken into consideration by the wearers. There is no limit to the proportion for ankle ornaments. From the truy wire ringlet, with but a single gem, to the beautifully served and enameled circle of gold.

THE SKIRT DANCE .- I hope I shall no be considered egotistical, writes Amelia Glover, the popular dansense, in the New York Morning Journal, if I say that skirtdancing is now the popular fad. We have outgrown that period in which the ballet used to engross the whole attention of the play-going public. Nowadays, if I gauge the taste of the patrons of the play correctly, a modest dance is preferred to that which leaves nothing to the imagination. Grace—modest grace, I mean—is now preferred to short skirts, tinsel and a wealth of

The success of the skirt dance is largely due to the sinuous, intexicating rhythmical movement employed. But it is also necessary that the dancer should be in per ect sympathy with her art. To attain success in skirt dancing the dancer must not have the slightest suspicion of emboupoint She must above things possess not only the quality o being able to dance artistically, but must also use a smile, a bit of gesticula-tion, an undefinable something such as

French dansenses use in their art. No artist of to-day can expect success-ully to compete with Taglioni and Fanny Elssler, who 40 years ago were the rage. I have seen pictures of the skirts worn by them, and find they are no longer than those used by the skirt dancers of to-day. two I pre'er the long skirt dance to the short one, not because I consider the latter in the slightest degree immodest, but for the reason that it folds and un olds itself in anison with the dancer's body, and multiplies the grace of every movement.

THE DRESS COAT MUST GO-The young men of the Equestrian and Kenwood Clubs, says the Chicago Times, are a-weary of be ing arrayed in sad-hued garb like unto waiters. The clawhammer coat and doesking trousers have become unspeakably common. and at their private balls this season they will appear in silken stockings and knee breeches, fancy coats and waistcoats of rich brocade, and low shoes, with massive steel, silver or jeweled buckles. They have wisely decided not to adopt the Parisian waistcoat of bright scarlet. They prefer being gen-teel and English to being French and loud. Their waistcoats will, therefore, be gorgeous, but they will not scream and interrupt the flow of polite conversation with their diabolic noise, For the conversation will be polite. There will be a studied effort to reproduce in the intercourse of the club members the same old-fashioned courtesy and deportment that made the ancient days famous in history. In short, Beau Brummeli is to be many times duplicated. and there is to be something "new under he sun," even though it is but a revival of the things that were.

The Kenwood and Equestrian Clubs have

many supporters in the East. At Tuxedo and at several private receptions of the "400" elsewhere the men sported knee-breeches, splendid waistcoats and colored coats. In England the regulation court costume is much the same, the Windsor or royal uniform being a blue coat wore over white satin waistcoat and knee-breeches. white silk stockings and diamond-buckled

So far no special costume for ladies has been pronounced upon. Doubtless, the tair ones will not be outdone, but will honor the clubs on "ladies' evening" by appearing in the powdered hair that heightens the charms country has a dancing hall for its inmates.

It furnishes recreation for those who are not patches" of the period. Of course, they will look lovely.

OTERO WRITES OF SPAIN .- All Spanwith its thousands of un oriunates, has a lards, it might be said, writes Otero, the large hall with a fine waxed floor, which on popular dancer, in the New York Herald, iards, it might be said, writes Otero, the are born dancing, and there would seem to be no need to apologize for them on that account, for dancing has been popular in all ages and among all nations. Even the savrom an opposite direction march the women. ages use their feet rather than their heads of the same equipments were: Horses, \$15,their queer notions and weak to express their ideas. Bushmen jump prains the female portion of an insune asy-about to imitate calves. Hottentots go on all fours to imitate the baboon, and execute crasy. They love finery and dress. Some one movement in which they imitate the of the costumes are fearfully buzzing of a swarm of bees. Other savage and wonderfully arranged. But after all it nations imitate by means of dancing hunts is not a scene for mirth, for of all sad after wild animals, and in Tasmanic a places in the world that within the walls of dance by the women describes their hunt But a after the opossum, diving after shellfish burden of sorrow brought the motley gath- digging for roots, nursing children, while ering bere! What tales of woe in the causes one very exciting movement describes a quarrel with a husband. Another dance is where by gesture they taunt a chieftain with cowardice and urge him to come for-

ward to recount his courageous deeds. As I say, the Spanish people seem to be orn with their dancing shoes on, and as a rule they are good dancers, because, as the French say, what we love to do we generally do well. The proverbs tell us that "A pair of light shoes is not all that is wanted for dancing," and "if a bear will learn to dance he must go to school early."

The fandango is the oldest national dance of Spain, especially in the district of Audalusia. Some say it was introduced by the Moors, while others claim it was ther be ore they came to the country. This dance interprets what may be called a passionate love song. The opening, or invita-tion, is a wild bit of music, accompanied by a poisterous song, which ends in a loud chorus of abl ab's! It is danced by couples, male and female, in what is called threefour time. The musical accompaniment is a guitar, a tambourine, sometimes castanets are used to keep time, or the spectators make up for the omission of the latter by clapping their hands.

SELECTING NEW DANCES .- The methods of that grave and important body-the American Association of Professors of Dancing - in determining the merits of newly invented steps, are very simple. This is the way they did it at their last meeting: Five of the 70 wise men were selected to act as judges, and their duty was to pass upon but one new dance. After this dance was presented, new judges were selected for the next one, and so on to the end. After the selection of a committee, the discoverer, author and originator of the new dance mounted the stage, a pianist rattled off an appropriate air, and the other masters of dancing proceeded to tangle themselves up in the intricacies of the dance under the

direction of the inventor. After the per ormance the dance was dis-sected. If it resembled an old-timer it was killed, and the author was led out in a state o collapse or remained in a state of indig-nation. Rejections were many. The na-tional society of saltatorial matters evidently had the knee-breeches dignity in mind and refused to adopt any dances but those beyoud peradventure-those which might be danced with perfect propriety in parlor or ballroom and which were neither violent

The association put in four days of hard work, and selected our round dances from the numerous ones presented. These were M. B. Gilbert's "L'Eclaired' waitz, H. R. Rivers' "Portland" waltz, the "Fascina-tion" waltz, by Mr. Brennecke, of Indianapolis, and the "Ox ord" minuet, by Horace W. Beek, of Chicago.

PORTRAIT OF A FAMOUS WOMAN.

Discovery Near Malvern of a Rare Picture of Lucrezia Borgia.

A portrait of a woman in Eastnor Castle, the seat of Lord Henry Somerset, near Maivern, has been identified as that of Lucrezia Borgia. It is by Genitle Bellini. signed. The portraits of Lucrezia are so rare that Gregorovius, in his history of this famous woman, says he does not know of the existence of one in Italy, unless it be the profile on a coin. The Eastnor picture represents her as a fair woman, with reddish golden hair. The features are long, especi-ally the nose, exactly as in the medallion.

EVERY DAY SCIENCE. Interesting Statistics Upon the Rapid

USEFULNESS OF INDIA RUBBER. New Theory of Seasickness That Suggests a Preventative.

Transit Problem. 4

NEW DISCOVERIES AS TO THE MOON

PREPARED FOR THE DISPATCE. At the recent convention of the American Street Railway Association at Buffalo, in many ways one of the most important gatherings of the kind ever seen in this country, President Lowry congratulated the association on the progress of which had been made in the work of the association since its organization in 1882. He alluded to the fact that the United States Government had recognized the growing importance of city passenger traffic by incorporating in its census statistics for 1890 a report on street railways in cities of over 50,000 inhabitants. In this report 56 cities are included, and out of a total of 3,150 miles of track possessed by them, 2,351 miles are operated by horses, 260 miles by electricity, 255 miles by cable and 221 miles by steam. In the smaller cities electricity is being generally adorted, and there are already in operation in cities and towns under 50,000 inhabitants about 1,600 miles of electric street railway. Mr. Lowry added:

I am so thoroughly convinced that electricity is the coming power for street railways (except heavy grade, where the cable s best suited), and that it will prove effective as a means of rapid transit for cities, that I believe this is the last convention that will ever seriously consider horses for the operation of street railways. When the people of a city clearly understand the great benefits of rapid transit by electricity or other improved motive power over horses, they will demand that their city authorities grant such rights as will enable street railway companies to operate by the most improved methods.

Heretofore street railway securities have not been looked upon with avor by the financial world. However, since they have been operated by electricity, the financial men of the country are looking to its develment and application to street railways as an additional reliable security for the investment or savings and trust lunds. This should encourage street railway companies to give their various cities the most improved and best possible service. They will not only please their patrons, but the investment will prove very profitable. If street railway companies do this, no better security can be offered for the savings of the widow and orphan than a good street rail-way bond in a thriving city.

People have not vet begun to realize what an immensely important factor the increase of speed in city travel may become. It is estimated that had all the street railways in Boston been operated by electricity during the year 1889, it would have resulted in a saving of more than \$1,000,000 in money and an aggregate of 274 years' time to the patrons of the roads, due solely to a 30 ner cent increase in speed. It has been found that increasing the speed of the cars a given percentage inevitably increases the patron-age in nearly the same ratio, while the operting expenses are increased by a very small traction of this percentage. An instance of this has occurred at Davenport, Ia., where it has been tound, taking the record for one year, that the total expense of operating five horse cars was \$10,840, while five electric cars cost \$11,270 to operate during the same time, or it cost to operate the same number of cars 334 per cent more by electricity than by rses. The gross earnings for the 12 months 897; electricity, \$23,670. It will thus be seen that although the operating expenses were increased 31/2 per cent where electricity was used, the earnings were increased very nearly 50 per cent, or, in other words, the substitution of electricity resulted in a net gain of more than 46 per cent, owing to the increased patronage induced by the im-

REST AS A MEDICINE.-A physician, writing of rest as a medicine, recommends a short nap in the middle of the day, for those who can take it, as a beneficial addition to the night's sleep. It divides the working time, gives the nervous system a fresh hold on lite and enables one to do more than make up for the time so occupied. A caution is given against the indulgance in too long a sleep at such a time, under a penalty of disagreeable relaxation. There has been much discussion regarding the atter-dinner nap, many believing it to be injurious, but it is, nevertheless, natural and wholesome.

IMPROVED WOOD-CARVING MACHINE. many radical improvements has been brought out. The machine is designed specially for use in furniture factories and in ear, organ and piano factories and other establishments where wood carving is done. It will carve four duplicate pieces any length at one operation if not over 71% inches wide, or it will make two duplicate pieces any length if not over 15 inches wide, and if a greater width is desired, one piece can be carved of any length and from 15 to 30 inches wide. The bits can be handled conveniently and in any direction within at angle o 30°. The top, or table, can be work, and will remain the proper height for the operator; the table also rests upon slid-ing ways, so that it can be adjusted for the convenience of the operator on different varieties of work. The driving pulley on the machine is 6 inches in diameter 3-inch face, and should make 1,400 to 1,500 revolutions per minute.

USEFULNESS OF INDIA RUBBER.-The number of uses to which rubber can be applied is constantly on the increase. The burnt rubber used for the final polishing of the gold lettering, etc., in the Government Printing Office, is simply India rubber which has been subjected to a peculiar fire process that renders it very absorbent. So remarkable are its powers of absorbtion that piece the size of one's fingers will easily take up \$5 worth of gold in its pores. When such a piece of rubber is loaded with all the gold it will fairly carry, it is sent, in company with others in the same condition, to the mint to be assayed. Rubber enters largely into the manufacture of artificial flowers, considerable quantities of which are made in this country, and artificial limbs owe much of their fl xibility and adaptability to this material. It is the only sunstance that imitates the ankle action of the human toot, and rubber hands are made so perfectly that many cripples are able to write by their use. The manu acture of smokeless powder has hitherto had most in-jurious effects on the health of those employed in it but now the men have been provided with rubber masks, which protect them from the fumes thrown off by the chemicals entering into the composition of the powder. One of the most admirable uses to which rubber has been put is for horseshoes; it is not only light and durable, but it markedly improves the hoof.

FIRE-RESISTING BRICKS.-It is stated that an hotel has been built in Hamburg entirely of compressed wood as hard as iron, and rendered absolutely proof against both fire and the attacks of insects by subjection to certain chemical processes.

LUMINOUS CRAYON-A luminous crayon has been invented for the purpose of en-

other form) to those students who wish to

THE ELECTRICIAN IN WAR.-Lieutenant Electrical Society, at Columbia College, described the part that electricity would play in case of an attack upon New York. Prominent among the various appliances that would be called into immediate requisition would be the various systems of torpedoes which would be launched from the preparing stations at Coney Island, Sand Hook and elsewhere against the ironclads o the approaching enemy. The question o ballooning, for observation and for the dropping of explosives on the decks of the enemy, would be agitated anew over the question of balloon propulsion by electric ty. Electric launches, arranged to carry orpedoes, would steal noiselessly out night on their errands of destruction. Electric picket boats of smaller size would scout the waters in pursuit of information or to convey dispatches numberless; electric sub-marine bosts would spring into being and, secure from detection below the sur ace of the sea, they would carry enough explosives to utterly destroy the proudest war ship of the world. It being apparent that the regular army and navy of the country would be unable, in the event of a sudden war, to handle all the electrical work that would certainly be thrown on them, Lieutenant Fiske proposes the formation or a corps of naval and military electricians to assist the regular army and the navy in its work. Such a corps might exist in every principal scaport town on the coast.

THE POLYMETER. - An instrument termed a "polymeter" is now used for measuring and regulating the requisite quantity of moisture, or so-called humidity of the atnosphere. It is designed also to determine the vapor pressure and temperature. It is of special value in technical industries, being largely used in cotton mills and paper starch actories, as well as in hospitals and private nouses.

veratrine, ergot of rye and drinks charged with carbonic acid.

SPOUTING COWLS FOR STEAM BOILERS. -A novel appliance has been introduced in England in the shape of a spouting cowl for promoting active water circulation in steam poilers fitted with Galloway tubes. The cowl is fixed on the top of each Galloway tube, without, however, interfering with the structure of the boiler. The cowl cuts off the local movement and causes the circulation to become general. A certain quantity of water escapes in a thin stream from the lips of the cowl, and there are special facilities for the disengaging of the steam carried up in the water. The amount of priming is thus materially dimished, and the uniform temperature secured in all parts of the boiler conduces to ts preservation and greatly diminishes the deposition of scale. In addition to these advantages, the indirect effects of this appliance are economy of fuel, economy of time, reduction of the cost of repairs, and

idea of the proper motions of the stars.

PROGRESS OF ASTRONOMICAL PHO-TOGRAPHY .- Prof. Holden gives an interesting account of the photographic apparatus, and the work done in astronomical photography at the Lick Observatory. He states that the negatives taken there bear easily an enlargement of 570 diameters, and even double that amount. From an examnation of the best pictures taken at the observatory Pro. Holden finds that parallel walls on the moon's surface, whose tops are not more than 200 yards or so in width, and which are not more than 1,000 or 1,200 yards apart, are plainly visible. o doubt that enlarged photographs are capuble of affording more information regarding the moon's surface than can be gained years of diligent observation, and when the larger leases now found necessary are direction may be looked or.

of various torms of disease by surface appli--A wood-carving machine which possesses | cations o hot and cold water has been found to be exceedingly success ul. An adaptation of this idea in which the water in no way comes in contact with the person, but at the same time is made the vehicle by which the heat and cold are applied on the affected parts is a new tubular bundage. It is made in four ports, the first being a head bandage so arranged that a continuous stream of hot or cold water can be made to encircle the head and flow away, being all the time enclosed in the tubular vessel. Other bandages are specially adapted for throat and spinal trouble.

> THE STORM KING .- Captain Jorgensen, the inventor and navigator of the lifeboat Storm King, which has just made the voyage from England to Australia, stated in Melbourne that his invention was especially designed to be of service when vessels sank without warning through collision, or in any case of sudden panic. It was impossible in large vessels carrying 1,000 or so, to have bosts sufficient to accommodate the whole, and it there were, there would not be sailors enough to man and navigate them. Such a vessel, however, could carry boats ready pieced together, after the Storm King pattern, sufficient to accommedate 600 or 700 people, and other separate sections could be stowed in different parts of the ship. The value of these sections lay in the fact that they did not need to be put together in order to be used. Each section would form a perfect life-saving apparatus, and although it would not be possible to navigate them until they were joined together, each would rater and provisions for 14 days, and would suffice to preserve life for that

a Fortified City. Philadelphia Record. The strange story, told on good authority, of the ruins of a great fortified city, built of dressed granite blocks, found on the Mashonaland plateau, in South Atrica, has given rise to a great deal of curious speculation, for its history is wholly unknown. Many of the walls than now; but it is just possible that the fort was constructed under the direction of

of cheap slave labor.
Only a superficial view has been made of the ruins, but light may be thrown on the mystery when the houses themselves have been explored. Light is being rapidly turned on to the Dark Continent, and the stories that come from it are as interesting

ELECTRIC CURRENTS.

Fiske, in lecturing before the New York Their Nature Made Clear by the Ac-

NEW THEORY OF SEASICKNESS .- A new theory of sezsickness has been recently offered by Monsieur Rochet. Accepting the view that the symptoms are those of cerebral angemia, he accounts for this angemia by the disorder brought into muscular conractions through not being used to such sudden movements as those of vessels. Monieur Rochet's advice is, not to look to anzesthetics, soothing drugs, etc., for relief, but rather to muscular excitants, and, above all, o seek in voluntary movements a compensation for the reflex movements which are not produced. He recommends strychnine,

increased length of life of the boiler.

VALUE OF ASTRONOMY IN NUMISMAT-ICS .- Dr. A. Vercoutre points out that a knowledge of the star maps may be a great help to the numismatist. Many of the coins and medals of the Roman Republic have the stars depicted in their proper positions relatively, and consequently enable the numismatist to decide the date of the coin, and also help the astronomer to form some

TUBULAR BANDAGES .- The treatment

SPECULATION OVER RUINS. Strange Story Surrounding the Discovery

are completely covered by the dense jungle and very old trees grow on the top ruins. If the city or fort was built by natime, when there was a higher civilization early Portuguese explorers, and by the aid

It must be admitted that well shaped ankles are necessary to support such extravagant playthings, but New York is noted for its women of good taste, and they can well adorn themselves as far as their pockets will permit. It is needless to say that

The eyes are light hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole, it is not the likeness or a beautiful nor even of a bright hazel and the mouth small and pretty. On the whole at the likeness or a beautiful nor even meter in sectional are

tion of Heat on a Rod.

RECOGNIZED ONLY BY EFFECTS

Units of Measurement Used in Speaking

of the Condition. THEIR RELATION TO EACH OTHER

WRITTEN FOR THE DISPATCH. ! Take a brass rod, say a yard long, give it a thin coating of wax, then place the rod on two supports (window panes turned on edge are good), and under one end place a lighted Bunsen burner; the conting of wax will begin to melt, first directly over the flame, then further and further away. We can see the heat travel the entire length of the bar, till at last the entire bar is warm and the wax all melted. It we call that end of the bar under which

we place the burner North, and the other end South, we would naturally say that the heat had traveled from the north end to the south end, and, as a matter of convenience, such language would be perfectly correct, but as a matter of fact, nothing has traveled from one end of the bar to the other, for, if there had, this thing would, most likely, have dropped off at the south end, or the south end would at least have been heavier since this thing got there, but no, nothing dropped off, and the end is not any heavier than it was before the heat crept over there.

THE PHILOSOPHY OF HEAT.

Heat is a condition of things and not a material thing. If a body of matter is warm its molecules or small invisible particles, of which it is supposed to be composed, are in rapid motion, and this rapid motion gives to the touch the sensation called heat. It one body is warmer than another its mole-cules are supposed to be in more rapid motion than those of the other. I. a body is warmer at one time than it is at another, its molicules or particles are supposed to have been in more rapid motion the first time than the last, and this motion or condition of the body gives to the touch the sensation we call heat.

Now, referring to our rod again, nothing that we can see, weigh or hold in our hands, has traveled from one end of the rod to the other. It is simply that the condi-tion of the rod has been changed, and this change began at one end and crept over to the other. And we naturally say in ordinary conversation that "the heat crept rom the north end to the south," and in saying this imply both an advancing motion or flow and a direction, but as a matter of lact, we have just seen that there is no advancing motion or flow, but there is a direction, for we can see this with our eyes and we say it is from north to south.

KNOWN BY ITS EFFECTS.

But after all it is only the effect that we see. Suppose that we could not see the Bunsen burner, and we simply had a portion of the rod before us, we would still know, by the gradual melting away of the wax from one end toward the other, that heat was being applied at one end, and not only this, we could go further and form a rough estimate of the intepsity of the heat by the rapidity with which the wax melted off. Or better still, if we should grasp the rod by the hand we would be able to form a very good idea of what was going on. In other words without being able to see anything but this wax-coated rod, we can, by observation and by noticing various effects, tell a great deal about what is going on there.

Heat, therefore, is the name given to a condition of things, and we recognize this condition of things called heat by its effects. If we see ice melting we say that there is a little heat there, because the condition of the ice is being changed, and in the melting we see iron melting we say there is great heat, for we know by experience that it takes great heat to melt the metals. Thus again, by the effect of heat we not only recognize its presence without be able to see it, but we also have a means of compariso

by observing its different effects. ANOTHER KIND OF CURRENT. And so it is with electricity. We often hear the expression "electric current" and "electric fluid," but these are simply convenient names given to a certain condition or things. Just as we say that the heat crept along the brass rod because it had that appearance, so we say there is a current or electricity in a wire when we notice a certain familiar appearance or effect evidently caused by the condition of the wire. Nov some of these off cts are such that there appears to be a flow or current of something in

For example, we can start a current of electricity in at one end of a wire and measure the time it takes to reach the other end. What more natural inference then than to think that electricity is a current or something flowing. But as with the heat and ro nothing came out at the other end, so it is with the electric current, nothing comes on at the other end of the wire. In fact, nobody has been able to weigh electricity or see or hold it in the hands. In other words, it is not a tangible thing, but a condition things, a form of energy that we call electricity. But because it, like the heat in a rod, acts as though it could flow or travel, we use the convenient term "electric cur-rent;" and although there is no actual current, vet, as with the heat and rod, so here there is a direction, and this direction as well as different amounts of electricity, and in fact its very presence, are all known and

calculated FROM FAMILIAR EFFECTS. and the observations made on them. For example, if we dip the two poles of an electric circuit into a pail of water, the elec-tricity will decompose the water. We thus at once recognize the presence of an electric current. But urther if we repeat this opera-tion and find that in the second experiment twice as much water was decomposed as it the first, we know then by making a com parison of the effects of electricity that there was twice as much current in the second case as in the first, provided the time that the current was allowed to act on the water was the same in each case. Thus without seeing or hearing or touching anything we are able to recognize the presence of elec-tricity by its well-known effects, and by comparing the effects we are enabled to make relative measurements.

However, in order to be able to talk about such measurements and make practical use of them we must have standard units of measurement to which we can refer all other measurem-nts-just as in liquid measure, for example, we must have some standard unit of n:easure, like the quart, by which we can compare all other liquid measures or vessels. Thus we can say that a certain bucket holds so many quarts, but we might ju-t as well have taken this bucket and called it the unit; then we would compare other vessels with the "bucket" and say, for example, that a certain tub holds so many

MEASURING ELECTRIC CURRENTS.

And so with electricity we have standard

units of measurement by which all other measurements can be compared, and in this way we are enabled to converse and exchange ntelligent ideas on the observed effects the electric current. There are three standard units, viz., the volt, unit of pressure; the ampere, unit of quantity, and the ohm, unit of resistance. And from these all the others are derived, as for example the Watt, or unit of energy, which equals one bolt multiplied by one ampere. The legal ohm or unit of resistance, and to which all other resistances are compared, is the resistance of a column of pure mer

of quantity is the amount of current that SHADOW OF A WIRE

RELATION OF THE UNITS. And further, it has been found that the following law, or relation, exists between these three units, viz: The pressure in volts is always equal to the quantity in amperes multiplied by the resistance in ohms, from which, if any trio of the above quanti-ties are known, the third can always be calculated. The ampere or unit of current is established by the amount of copper it vill deposit in a copper buth (voltameter) in a given time and under given conditions Thus the unit ampere is that amount of our rent which will deposit 0.00032959 gramme of copper per second. The needed apparatus and conditions for an accurate determination of this unit can be found in almost any text book on the electric current. We have thus established two out o: the

three undamental units of electricity, and from the above law-called Ohm's Law-we can easily determine the third. SCIRE FACIAS.

THE ELECTRIC WORLD.

New Applications of the Mysterious Curren to Every-Day Life. (WRITTEN FOR THE DISPATCH.)

A NEW adaptation of electricity has been pade by a large publishing house. In the office of the superintendent are ten electric lamps each having its distinctive color, which are con nected by means of wires with the automatic counting machines on the ten large printing resses located in an adjoining building. Whe the presses are in operation the circuit is opened and closed by the working of the countopened and closed by the working of the counting machines, causing quick flashing of light in the lamp. Thus every sheet of paper printed in the establishment telegraphs its record to the office, where the operation of each machine can be seen and its speed or delay noted. An interesting point in this connection is that the speed of the large perfecting press is so great that it was found necessary to record each two sheets printed instead of single sheets, and even then the flashes of its lamps are almost continuous in appearance, showing that while the press is not quite as quick as lightning, it is too fast for the eye to follow. Managers of large establishments, who wish to be able to see the operation of their machinery while working at their desks, are likely to avail themselves of modifications of this new departure.

ATTENTION has been drawn to the advisa ility of the adoption of early remedial meas res by those who are suffering from the effect of a too long exposure to strong electric light The "tired" sensation in the ontic nerve, which such exposure causes and the local inflamma such exposure causes, and the local inflamma-tion which accompanies it, are both due to the fact that that the luminous waves proceeding from a powerful electric lamp are not of very great intensity. The general symptoms in-duced in the eyes of people who have been ex-posed to the giare of unprotected lamps for too long a time are: (1) Transient irritability of the retina; (2) local inflammation; (3) tears and "flashing" of light before the eye; (4) inciplent paralysis of the eye. Usually people experi-ence sensations which are analogous to those which are felt when particles of foreign mat-ter are present beneath the evelid. In order to which are felt when particles of foreign mat-ter are present beneath the evelid. In order to prevent the sight being permanently injured, it is necessary to adopt hygienic shades, hough these do not act thoroughly in reducing the in-tensity of the luminous waves. Rest must be sought, and the pain relieved by the applica-tion of cold water compresses. When the pain is almost unbearable—a calamity frequently suffered by those who have been exposed for many hours a day to the clare of powerful many hours a day to the glare of powerfu lamps—a medical man may relieve it by the in-jection of cocaine and atropine. The French call this peculiar malady "electrical sun-stroke." ...

AN interesting exhibition was given in the central station of the electric light company in Melbourne recently. A supper was served, all the viands of which were cooked by electricity. The culinary operations included the grilling of beefsteaks, the making of toast and the boil-ing of water.

CLOCKS are being made for the towers of churches and public builings which, instead of naving an illuminated dial with dark hands, have a dark face with enormous pointers of light. These pointers are made of glass, over an iron frame, and are rendered visible for miles by incandescent lights, which give them the appearance of slender white rods of fire.

A PATENT has been granted for an electrica drill for oil wells. The device consists of a series of motors in tandem, connected in such a way as to make one motor. The design has been to get the power within a six-inch diameter, so that the entire mechanism, which much resembles a common boiler, can be lowered in the well, and the power can be applied at the bottom. The drill bits are firmly fastened on the rod, which is worked rapidly in and out of a cylinder, after the manner of a piston rod.

THE primary battery has been applied to the propulsion of invalid chairs in England. A strong chair, weighing about 200 pounds, is fitted with a battery at the back of the seat, and car be species up to about five miles an hour. As it is calculated that the cost of maintenance of the battery does not exceed 4 cents per hour, and as no renewal would be required during an ordinary day's use, the economy of this mode of propulsion for invalids is apparent.

are well, and or the rest of the time listen-ing to the click of the cipher which hides THERE are many indications that before long he electric light will be the only illuminant employed on railway trains. An important step has been taken by the Russian Govern-ment, which has decided that all the cars shall be lighted by the electric light in future.

CURING CONSUMPTION.

A Shop Experience That Points to Hydro cyanic Acid as the Result.

The paper read by Koch at the Berlin congress on the treatment of consumption, of which I spoke at some length in one of my recent articles, says a writer in the Paris edition of the New York Herald, gives a certain value to a publication by Mr. Reuter. and I think it quite probable that it may become the starting point of a new treat ment of tuberculosis.

Mr. Reuter has been for several year director of a factory in which all sorts of metal objects are manu actured. In some of the workrooms the gilding and silvering is done by the galvanoplastic process. Mr. Reuter noticed that among the workmen employed in this part of the factory those who had the appearance of consumptives and who presented symptoms of tuberculosis were considerably benefited by their work, that their cough diminished as well as the expectoration and dyspnosa, while they inreased in weight He noticed, further that the condition of these patients when they passed into other parts of the factory grew worse again, although their new occuation wight be less fatiguing than the

former one.
Under these conditions the question arose whether the improvement noticed during their sojourn in the rooms given up to the galvanoplastic process had not some rela tion with the escape of hydrocyanic acid from the surface of the apparatus. Mr. Reuter is convinced that this is the true explanation. It might be feared that living in that way in an atmosphere con-taining an appreciable amount of hydro-cyanic acid would give rise to symptoms of chronic poisoning, but after having examined over 100 persons who had been oc-cupied in the above mentioned rooms during the last 30 years it was found that this apprehension was without foundation.

The Italian Vender Has Now to Depend Upon the Southern Product. New York Star.]

"New York State has suffered very much this year in its fruit products," said a marketman to a reporter yesterday. "Our peach and pear crops were poor, and the grape growers early in the season announced that the prospect for a good vintage was wretched. The chestnut growth, too, in this State

has been on a smaller scale than for many years. New York has usually urnished plenty of chestnuts for export, as well as for local consumption. This year, however, only 25 bashels of New York nuts have been brought to market. This famine has created a market here for Southern grown chestnuts, and the supply from Vir-gluia and neighboring States was so large that the New York market was almost flooded a few days ago.

Prices sell to \$2 25 per bushel, but during

the past ew days ewer shipments have been received, and consequently chestnuts have risen from \$2 25 to \$3 and \$4 50 per bushel,

Desert of Australia.

BY RAIL, BY CANAL AND ON FOOT

The Journey is Toilsome and Dangerous,

but Interesting.

MYSTERY OF THE DUKITE SNAKE

IWRITTEN FOR THE DISPATCE.1

A trip across the inland deserts of Aus-

tralia is interesting, but toilsome and dan-

gerous. Port Augusta, at the head of

by the northeast to the great grazing downs

of inner Queensland, one by the north

through dry valleys and across dusty

mountains, hotter with every mile of north-

ing until it dips into the steaming jungles

of the northern coast, close upon the equator,

which seems botter there than anywhere

else within its torrid span.

The Queensland road marks its track be-

youd mistaking in the bleaching bones of cattle that have fallen by the wayside, The

great Northern road is marked by a light

thread or wire strung overhead, for it is the

course of the overland telegraph, which links Australia and New Zealand with the

world's news and daily cares. A railway is

now building along this route and the work

of construction is prosecuted from either end so rapidly that it will not be long before luxurious travel is possible over what is

TOBACCO A NECESSITY.

The traveler's beggage must be cut down to what can be carried in saddle bags. The

wise traveler adopts the theory that a suf-

ficient supply of tobacco must be carried and as much of other things as space per-

mits. It is the only currency of the bush-

a good quality for the white men to be met, rank blackstrap for the aboriginels.

Of course we took the new railroad as far

as it was built. This was Baltana, a typi-cal track town, which remined one of the mushroom growths of the days when the Pacific roads were building. Here the real

journey began and the means of locomotion

was the camel. It is barely possible that there exists some locomotive agent one de-

gree more intolerable than the camel. If so

it is not known. The wretched beast main-

tains a distinct gait in each of its four legs,

it swings its head with the motions of still

fith mode of progression, and the roll of

its body is a resultant or all three and yet

other forces not clearly to be identified.

Then the camel may crane his neck and bite

you and the general air of wickedness of the Alghan driver keep you in suspense.

Camels and Alghans were imported by

Sir Thomas Elder to develop his run, which

begins at Baltana and extends far into the

remote interior. Camels carry one over the

salt desert where horses could not live and

deposit the way arer at the station at Um-

bum, where is a well, a shanty and a col-

ection of horses which have more vicious

tricks than any herd o. the equine sort ever

bred to mischief and depravity. The most

deceit ul of the herd was here acquired and

behaved for a hundred miles beautifull

and for the next thousand miles fiendishly,

until an iniquitous disposition killed him

in the desert.

After the new railroad, the camel, the

horse, no more experiments offered any in-

ducements, and the remaining 500 miles

were performed with those only reliable

agents of locomotion, one's own leet and legs; and these long miles were the most en-

THE TELEGRAPH WIRE.

to sight less keen than the black fellow's

that a mile away they can hardly be dis-

cerned. Following the tornt shadow of the

line upon the sand, one comes to springs or

pools or filthy water at long intervals, and it is necessary to take the inland trip in

Australia to discover how filthy water car

At intervals of about 150 miles are found

the relay stations of the telegraph, uni-

formly neat structures of stone, where two

men live in lonely company, watching that

their wires work uninterruptedly, reporting

once a day to the end of the line that they

rom them the news of the world, which

might alleviate the intolerable monotony of

their life. Sometimes there comes a break

in the wire, and that breaks the mountony

has taken that means of summoning succor

NATIVES FEAR THE WIRE.

A simple galvanometer test suffices to fix

the exact position of the break, and with his

kit of repairing tools the operator carries

food and drink to restore a tamished man. There is no chance that it is a trick of the

wild natives, for one and all they dread the mysterious wire with a great lear and never

dare to go beneath it except in the darkness

of night.
In such gradual journeying the scenery

changes but slowly. The first third of the way lies over deceptive plains which seem

level and yet strangely bar the view with

their unnoticed elevations. This is the land or baked clay, of blue bush and salt

bush and the thorny spinitex. The second

and rolling bills. Here are no great heights

and no deep valleys, yet the change is an agreeable one; water begins to be more plen-tiful and of a better quality; there are even traces of rain in the shape of green vegeta-

tion. There are dry stretches between the

ise which every northward step brings

n the sky with promise of moisture, a pro

A MYTHICAL SERPENT.

The final third of the way lies within the

tropics, showers begin to come and soon de-velop into down-pours. The dry plain

changes to the rank sogginess of marsh land,

there are suggestions of alligators, there are mosquitoes and all manner of venemous flies. At last Palmerston is reached on the

shore of Port Darwin, which opens into the

Indian Ocean. The journey is over, and at the end no one thinks it in any way re-

Nowhere has there been a sign of the Du-

kite snake, which alone could make it worth while to take such a trip. All believe init. All are convinced that the man who kills one Dukite snake must immediately kill its mate or be relentlessly hunted down and

slain by the bereaved serpent. His habitat

is loosely said to be up somewhere on the line of the telegraph. Three months' search

ailed to discover even a single Dukite: faith

in this serpent has gone with shattered faith

n many another serpent who has proved

nimself a myth. His existence is confined

to the musical verse of John Boyle O'Reilly, who heard of the Dukite when he wore fet-

nearer realization.

markable.

ers in the bush.

third of the journey is among mountains

for it may mean that some starving wanderer

be and yet be greedily lapped up to quench

een distant poles or from t

the journey.

yed. So much for the manner of making

BOTH ARE IMPORTATIONS.

now the path of toil.

Cocoa is the Only Proper Drink for Those Who Must Toil.

TEA ISN'T A FOOD.

Is the Only Guide Across the Central Illustrated News of the World. Tea is not a tood. By a "food" one means any substance which can contribute directly to the nutrition of the body. Fat is a food in this sense: so is sugar, and so is starch. Minerals-such as potash, fron, lime, and so forth-are also foods, because they assist in building up the natural structure of our frames. Again, the nitrogenous substances -albumen and casein and gluten, and the like-are foods, because they enter intimately into the composition of the most vital parts of animals. So that the list I have just given-nitrogenous matters, fats, starches and sugars, and, finally, water-includes really all our necessities in the way

of nutriment. It is true, of course, that the most of the Spencer Gulf, in South Australia, is the things we eat are in themselves combina-starting point for two thoroughtares. One tions of "foods." Beef is not one food, but tour at least-water, nitrogenous matters, fat and minerals. Let the chemist analyze tes for us, and tell us of what things it consists, Here is his reply: Minerals, leaf-debris, the merest traces of starch, and, finally, certain important bodies known as alkaloids, among which theine and caffein stand out prominently. The theine and caffein are undoubtedly nerve stimulants in a very direct sense; and the seviving effects of a cup of tea are certainly due to the presence of the

Have you studied the nutrition of millhands, milliners, and the great army of women-tolk who labor and toil in our great centers of population? I not, just think of the enormous nutritive waste, and of the terrible error in dietetics, which every day represents, when you find the working classes (and other classes as well) living chiefly on tea and bread. Out of tea you can get practically no energy or force where-with to do work. Ask any physician who labors in dispensary practice what he knows of the effects o under-nutrition as represented by tea (used as a cood), and you will be surprised to hear of the amount of dyspepsia for which tea-drinking is responsi-

Take away tea, and what is left then for the working man? I have no difficulty in replying—cocoa. This last is a true food. It contains starch and lat and sugar, along with nitrogenous matter, and also a stimu lating principle. A cup of tea is no fit breakfast or any man; but a cup of cocos, with bread and butter, is really a meal on which the laborer may fitly begin the toil of the day.

The Austrian Way.

Detroit Fress Press, 1 While an Austrian regiment was on dress parade on the 2d inst., a bug crawled into the ear of a sergeant. He put up his right hand to remove the insect, and a court martial reduced him to the ranks, fined him \$18 and obliged him to carry a weight o. 60 pounds on his back for 14 days. It is the big-bugs who have the call over there.

Couldn't Answer.

Detroit Free Press.] An Austrian painter painted a female angel with a good deal of drapery clinging to her flying form. A newspaper critic asked him how cloth was made in heaven, and what of, and how shears and needles got up there, and the artist went off and hange

MADAME A. RUPPERT



Mme. A. Ruppert's world-renowned face bleach is the only face tonic in the world which positively removes freekles, moth patches, blackheads, pimples, birthmaris, eczema and all blemistes of the skin, and when applied cannot be observed by anyone. The face bleach can only be had at my branch office, Ne. 98 Fifth avenue, Hamilton building, rooms 263 and 244. Pittsburg, or sent to any address on receipt of price. Sold at 82 per bottle, or three bottles, usually required to clear the complexion, \$5. Send 4 cents postage for full particula ocli-su MME. A. RUPPERT.

CURE CONSUMPTION

And That, Too, by the Administration of But Very Little Medicine-The Inhalation of Medicated Sprays by Pneumatic Cabinet

Now the Recognized Method of Treatment. In the first stage of consumption or early part of the second stage, during the breaking down process, but before cavities have actually formed, I can arrest and cure the disease in every case where I can get the entire co-oper ation of the patient. Even in the latter part of the second or early part of the hird and last stage, when cavities exist, the distressing a mptoms can be relieved and life prolonged with comparative comfort.



Since the Tuberculosus Congress decided Since the Tuberculosus Congress decided that consumption is due to the presence of the tubercle bacillu-the pneumatic cabinet treatment has become the recognized mode of treatment among all progressive and wideawake physicians. The success I have had with this method of treatment during the past three years is simply marvelous. There are scores of people waiking the streets of Pittsburg Laday who owe their lives to it, and will cheeffully who owe their lives to it, and will cheerfully testify to the fact. Many of them never swal-lowed a mouthful of medicine during the whole course of treatment, which makes their recovery still more marvelous. By the cabinet treatment antiseptic or germ-destroying sprays are brought into direct e-ntact with the lung tissue, cleansing and applying medicine immediately to the diseased parts. The treatments are not at all unpleasant or hurtful to the weakest patients. I often put my little daughter in the cabinet to strengthen and develop her lungs, as she has list pneumoniatwice.

On account of the great cosuff the cabinet (500), and time consumed in treatment, from one-half to one hour, I charge 31 for each inhalation, or 35 per week for daily inhalations, which are often necessary in very bad cases. I have the only cabinet and finity equipped inhalation in the city. covery still more marvelous. By the cabinet

The Popular Narcotic is a Good Weather Bureau if Understood. Louis Globe-Democrat.]

WILLIAM CHURCHILL.

Coffee is an excellent barometer because it s such a good absorbent. On the eve of a rain storm, grinding coffee is difficult and almost impossible, while when there is no danger of wet weather it is quite easy. In establishments where a boy is kept steadily employed grinding coffee he is often asked whether it is going to rain or not, and on mornings of half holidays anxious clerks ten look at and even touch ground coffee.

FURNITURE upholstered and packed for shipment. HAUGH&KEENAN,33 Water st.

COFFRE IS A PROPHET.

CATARRH TREATMENT \$5 A MONTH. I continue to treat catarrh by the Besaler spray method and the aplication and administration of such medicines as each case indicates, for \$5 a month, Bear this fact in mind, catarrh can only be thoroughly eradicated by combined local and internal treatment, and those trying any other course are simply wasting their rime and money and jeopardizing their health and even lives. For out-of-town putients I have devised a system of home treatment, combining both local and internal medication. Write for symptom blank, DR. BYERS, office and inhalarium fill Penn