NOTES OF THE WHEEL.

MATTERS OF INTEREST TO DEV-OTEES OF THE BICYCLE.

The Latest Novelty on Exhibition in New York City-It Is a Wheet Driven by Piston Pods-Michael's Bold Defi-What Tom Cooper Says.

The Latest Novelty.



"CHAINLESS" bicycle, the product of one of the largest manufacturing concerns in the West, of a style not yet exploited, and built to sell for \$100, was placed on view recently at a salesroom near the "Circle," Fifty-ninth street and Eighth avenue,

New York. Its debut was more modest than that of the bevel-geared wheel that preceded it, but it may yet give its earlier rival a hard race for public favor. The power of the new machine is transmitted by means of two mould sprocket wheels and two levers, or piston rods, connecting the crank axle with the rear wheel. The sprocket wheels are connected by a short band chain and one entirely enclosed. The rear sprocket turns a shaft that drives the levers, one on either side of the rear wheel, and so adjusted that it is claimed they cannot come to a dead center. This arrangement is very simple, and as every point of contact in the driving mechanism runs on ball bearings the motion is easy and regular. One advantage claimed over bevel-geared machines is the fact that the gear may be quickly adjusted to any size, from 60 to 100. The new wheel is not absolutely "chainless," but the band chain, which is entirely enclosed in a metallic box between the crank hangers, being entirely hidden from view, gives the machine a chainless appearance. The new model was



THE PISTON BIKE.

taken from its stand and ridden on the Western Boulevard. Like the bevelgear wheel it responded at once to foot pressure, and there was the comfortable feeling beneath one that not the least power was lost. Absolutely no back action could be felt, and the wheels seemed to turn with scarcely any effort on the rider's part. And at this the bicycle was geared to 84. The questions naturally suggest themselves whether the levers will break, the in closed chain stretch, or the connections work loose. If not, the new wheel will compare favorably with any of the chainless types so far placed before the public. It has one advantage claimed over the bevel-gear in that it has no cogs to break, and it has another advantage over some of the new wheels advertised in that its cost will be less. At any rate, it is an interesting addition to the new class of biycles now being experimented with .-Exchange.

Michael's Bold Defl.

Jimmy Michael makes the startlingannouncement that he stands ready to race against the combined abilities of any two American riders, either at 25 or 30 miles, for any amount up to \$5-, 000. He will allow the riders to change against him as often as they desire. There is only one other condition which he names, and that is that the challenge, if answered, must come before January 1, for on that date he will retire from the track until the opening of the summer season. In the meantime he will hold himself in readiness to race either the Frenchman. Taylore, or Chase, the Englishman. He will accommodate either of these men at any place, time or distance. Within Tve weeks he stands ready to race sgainst any three men in the world a series of five match races, three out of five successes to score a win. The men pitted against him can alternate in competing in any of the matches.-Ex.

Brakes Coming Back.

Nearly all of the '98 models so far seen, says "Bicycling World," have either been equipped with a brake or a brake attachment provided for, and this fact is significant of the increased interest manifested in the use of brakes. For several years past a brake on a wheel has been the exception rather than the rule, and many makers have built their wheels without a thought of a brake, providing no means for its attachment. There have been many riders, however, among them some of the oldest in the sport, who have always contended that the brake was a necessity. The number of accidents constantly happening, many of them being fatal ones, and many of which could have been easily avoided had the luckless rider had a brake which he could control, have served to confirm this opinion to such an extent that the brake question is once more of paramount interest to the bicycle makers. The improvement in brakes of late has been as marked as that of the bicycle itself, and the brakes being offered for the '98 trade include several automatic arrangements of more than ordinary practical value. The advantage of a brake that can be instantly controlled is obvious, and in the new style of brakes the objections to the old type have and blue chips in his coat pocket.- by Sidney Lee; "The Scottish and Enbeen overcome. There is little to ob- Judge.

ject to in the way of unsightliness or weight, as the new brakes are practically invisible and weigh aimost nothing. From present indications a large CURRENT NEWS AND GOSSIP proportion of the wheels built the coming year are to be fitted with a controlling apparatus of some kind,

Sartorial Fitness.

How slightly developed even yet is the average feminine rider's sense of the eternal fitness of sartorial things awheel is amusingly illustrated by some of the costumes that can be seen almost any day. Stepping from the warmth of her home, the unimaginative woman cyclist does not seem to realize that her swift passage through the air will result in a physical discomfiture that will hardly be counteracted by the glow induced by rapid pedaling. From a string of thirty women riders seen on the cycle path in Brooklyn and selected at random not less than five were too scantily or otherwise inappropriately attired. There were riding skirts and blouses made of every conceivable material, from Tam O'Shanter to beplumed elephantheir wearers. The prettiest women were the most sensibly dressed.

The Latest Scheme.

A Western manufacturer has perfected a scheme which he calls a "winter bargain," says the "Wheel," and which promises to keep him busily ema payment of 15 cents per day from Oct. 15 to April 15 he promises to furnish a wheel which is made of the best cold-drawn seamless tubing, with electrically welded fittings, and equipped with two-piece crank, detachable sprockets, chain, tires, adjustable handle bar, etc. Or for 25 cents per day he furnishes a wheel constructed from the highest grade material obtainable. As a special inducement he will allow anyone bringing in a bona fide order 10 per cent. commission when paid up or guaranteed paid, so that by bringing in ten such orders a wheel is obtained free. Back payments to be made up from date of filling order, which makes practically the usual first installment.

Simple Formula.

Any cycle rider in the least inquisitive about the number of miles per hour he is making can ascertain in a very simple manner by noting the number of revolutions the pedal cranks make in a given number of seconds. The gear of the bicycle must also be taken into consideration. For example, a rider on a wheel of 66 gear goes as many miles an hour as his pedal cranks make evolutions in 11.78 seconds. A table of seconds and gears for computing speed is as follows: Gear-

54 60 66 72 78 84 90

9.64 10.72 11.78 12.84 13.92 15.00 16.08 17.14 An easy way to approximate the exact number of seconds is to place a drop of ink on the crystal of the watch. If the cranks revolve 11 times in 11.78 seconds with 66 gear the rider is traveling at a rate of 11 miles an hour.

Cooper's Excuse.

Tom Cooper has arrived home, in Detroit, for the winter. In an interview he said: 'I am satisfied with my work during the year. I was not in firstclass racing trim except for a few days during the season. I have met with considerable hard luck and have received more than my share of tumbles. I feel tiptop and expect to race next year, and hope to give a better account of myself. Bald has raced in splendid form all year, and deserves the honors he has got. Had I been in proper shape at the opening of the season I think that I would have led the bunch in points, but you cannot always be on



TOM COOPER.

soon, and then the public wants to look out for me." Cooper said that the yellow fever scare had much to do with breaking up the southern extension of the National circuit. Under favorable conditions the riders would have raced until spring, finishing in Mexico. Cooper is looking as fine as silk and will take light exercise during the winter. He will pay a good deal of attention to skating and other winter outdoor

The Tri-Color

A cloud had appeared in the sky of their connubial bliss, a cloud no bigger than a man's hand. These dimensions, though small, were exact. She had just discovered some red, white

OF THE STAGE.

The Popular Actress of Today Must of Necessity Be Quiet; Ladylike and Wellbred-Annie Russell, Viola Adams, Maude Adams, and Effe Shannon.



OWADAYS It Is the quiet, ladylike, well-bred young woman who is the popular actress for the American gudiences. There is nothing about her to make anybody uncomfortable. She never makes sudden outbreaks of

emotion that conjure matinee assemblages, nor will her feelings ever be expressed in objectionable ways. She will not do anything more incompreflimsy lawn to Klondike furs, and hensible than represent to the women hats of varying shapes, from the saucy in the audience just the type that all of them are likeliest to resemble, or want tine monstrosities. It must have very much to resemble. So this is the made wheeling a matter of misery to type of the popular American actress today. It all comes back to the one really governing power in American theatricals. This is the patronage of women. Plays which they do not enjoy will never be made popular, and to gain their favor is one of the most certain guarantees of an actor's success. They like women on the stage ployed during the winter months. For of the kind represented by Annie Russell, Viola Allen, Maude Adams, Effic Shannon, Georgia Cayvan, Florence Rockwell and Isabel Irving.

> Julie Kopacsy, the comic opera star, who made her debut at the Irving 4, in the title role of "Die Lachtaube," was born in Hungary, Austria, Feb. 13, 1871. She graduated from the Budapest Conservatory, and at the age of 18 made her first appearance at Debreezyn, with aspirations for grand opera. Comic opera, however, pre- made his debut as an actor, playing jusented a better field for her talent, and venile leads for Ada Gray, Dan Sully,

> THEATRICAL TOPICS. michael Stepper, "The Seven Deadty Sins," by Frederick Rogers; "Elizabethan Household Life," by Miss Grace Latham; "Shakespeare as a Punster," by F. A. Bather, M. A., F. G. S.; "Shakespeare and Montaigne," by Frank Payne; "Noctes Elizabethanae," by William G. Hutchinson; "The Elizabethan Pamphleteers," by James Ernest Baker.

When E. J. Henley produces "The Raven," one of the accessories will be a coal-black bird of evil omen to perch above the "pailed bust of Pallas." The bird is in active rehearsal and the stage hands have christened him Richard, says the Tribune, because he is the Boss Croaker.

Late comers are to be treated with scant courtesy hereafter at the Vienna Opera. By a new rule of the Intendant, no one is to be permitted to take his seat while the overture is being played, and in the case of Wagner's operas. where there is no break between the overture and the first act, late comers cannot get into their seats until after the first act is over.

Some remarks concerning the supposed duty of a "professing" Christian to avoid theaters and shun actors, "except to lift them up," made from his pulpit in Indianapolis by the Rev. C. L. Hare, have induced that estimable and ambitious actor. Otls Skinner, to reply cloquently in defense of the stage, which does not now and never did need defending from such assaults.

M. Sardou is preparing "Pamela" for time that Richardson's novel has been adapted to the French stage in one produced in Paris about a century and management of Heinrich Conried Nov. ater Italien, the other by Lauchausee at the Theater Francais.

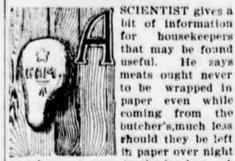
Eugene Wellington was born Nov. his theatrical career in 1877 as a lithographer in Chicago, Ill. In 1879 he

SCIENTIFIC | TOPICS. something so fugitive that it was not CURRENT NOTES OF DISCOV-

A Jersey City Man Has Invented a Pen That Never Gives Out-Beautiful Work in Bronze-Keeping Meat Changes in Water Power.

ERY AND INVENTION.

Keeping Meat.



bit of information housekeepers that may be found useful. He says meats ought never to be wrapped in paper even while coming from the butcher's much less rhould they be left in paper over night or when put away in the ice box. A large sized piece of paper will absorb

half of the juice of a good steak if it has the opportunity, and thus destroy the most delicate and relishable portion of it. One housekeeper has a covered china dish that she sends to the market, and in this the meats are placed. When she requires a large amount she often sends the porcelainlined preserving kettle with a rack in the bottom and a piece of ice underneath. Of course this is not necessary in very cold weather, but during fall and spring people do not realize that meats deteriorate very rapidly upon exposure to the air. The temperature is so much cooler for them that they Mme. Rejane. This will not be the first forget that chemical changes take place rapidly even in moderately cool weather. A market basket fitted with an form or another. Two such pieces were agate tray or basin is excellent for meats. An ordinary cover may be Place theater, New York, under the a half ago, one by Boissy at the The- used and in this way the steaks and joints will come to the table in a much better state than as though they had been allowed to give up their substance to a bit of manilla. The custom of 27, 1858, at Springfield, Ill., and started sending home butter in wooden trays is severely criticised. The wood is almost certain to impart a disagreeable flavor to the butter. It may not develop immediately, but the butter will not keep as long, and is quite sure to become objectionable before it is used. Paper is quite as bad, and when one reflects on the material of which ordinary paper is made the suggestion is scarcely calculated to prove an appetizer. Of course a very high degree of heat and powerful chemicals are great cleansers, but all the same a fastidious taste prefers the purity that comes of contact with nothing but surfaces known to be perfectly clean.

> The Telescriptor. A new device for registering mestages received over the telephone from any distance was shown in Berlin recently. It is an electrical writing machine called "telescripteur," the invention of an Austrian engineer named Hoffman, and it has aroused a great deal of interest in electrical circles. In its general appearance the telescripteur is like a typewriter. The machine is connected with the telephone in some manner not yet revealed, but without the use of a special wire. The letters of the message are printed upon the familiar narrow tape in clear type by the writer using the instrument, and the wonderful part of the invention is the fact that if a similar machine is attached to the receiving end of the telephone, it immediately prints the message simultaneously with its composition on the sender's machine. As soon as the central telephone office makes the connection the machines begin to work, and the receiver continues to grind out messages as long as they are sent. Theoretically, the machine is expected to work perfectly at any distance, and for officials, institutions, factories, offices, newspapers and all places where a large number of telegrams are received, the machine is bound to be a great boon, as by means of it messages can be sent directly into the office or home for which they are destined. At the test the two machines, which were placed in different corners of a room, worked admirably.

Beautiful Work in Bronze. This is a photograph of one of the most remarkable and beautiful things



on the Chinese wall. As long ago as the time of Marco Polo it is mentioned in literature. It is an astronomical instrument and is made with the most exquisite skill and care. It is a bronze globe about fifteen feet in diameter, cut and intersected marvelously, so that it seems a balanced group of circles. It is supported by bronze dragons of the most exquisite workmanship and of mammoth size. These are chained to the globe by beautiful links

Changes in Water Power. In the early history of the country

the natural fall of water furnished almost the only available power, except human muscle. Gradually water power was superseded by steam. It was first was a doubtful experiment, and games of chance.

at all easy to get the handling of it. It appeared to be inadequate and uncontrollable, and there were many doubters as to its practical utility. The problem of handling it at long distances seemed insolvable, and the evolution progressed but slowly. Then some brilliant mind suggested the use of enormous water power to generate the electric current. Millions of horse power are created by the turning of a great river into the immense turbines at these electric centers. From the great power houses the electric current travels with inconceivable rapidity over miles of space, and furnishes motive power where it would be impossible to obtain it otherwise. No. matter how high the altitude or how inhospitable the face of the country, wherever the branching arms of the electric wire poles reach out, they extend a welcome to the pioneer and tell him that he is not only not shut out from civilization, but that he is in touch with the great world, and has at his command that which will insure him profitable occupation at a fraction of the cost of obtaining it from other sources.

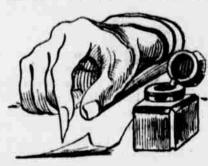
Machine to Record Thought.

Savory d'Odfardi, a Frenchman, living in England, is the inventor of a machine that, he claims, will record thought and emotion. The machine consists of a metal disk, lying flat, and marked off, on its edge, with degrees. Above it a needle, which looks something like a hatchet, is delicately suspended. The whole is under a glass bell. The experimenter wills the needle to move, and it moves-whether as a result of the will power, or from causes best known to M. Odiardi. Various emotions affect the needle in different ways. Love, hatred, joy and sorrow are registered on the little instrument, which swings around the disk. These things happen, and many distinguished scientists have observed the phenomena without being able to detect any trickery.

Writes with His Finger Nati.

It makes no difference to Walter Lowery of Jersey City that steel pens rust and gold pens break, that stubs blot and fine pens scratch. For Mr. Lowry proceeds on the principle that every man should be his own pen, so to speak.

He allows the nail of his right fore-



finger to grow to a pridigious length. Then he trims it to a fine point and writes away, cheerfully dipping it into the ink well.

A Machine That Prints Phonetically. An instrument weighing only one and one-half pounds, and occupying a space of only six inches square, has been invented to take the place of ordinary short-hand writing. There are sixteen keys, which lie next to one another, within the four outer keys. On these are all the letters and characters that are to be printed. The vowels and consonants are marked, and can be brought forward as desired. The sixteen keys are so arranged that they can be operated in pairs, so that one finger can press down either one or both keys of each pair. Those operating the machine have written at the rate of one hundred words a minute. and the writing can be read easier than short-hand.

Electricity Instead of Steam. The Prussian railway minister, Herr von Thirlen, has decided next year to substitute electricity for steam on the railway between Berlin and Potsdam in order to test the adaptability of the electrical locomotive for general railway traffic. The engineers maintain that traffic conducted by electricity will be both cheaper and faster than the present system. The line between between Berlin and Potsdam on account of its many suburban stations. is one of the busiest in the whole of Germany .- New York Tribune.

Internal Heat and Climate. Lord Kelvin holds that the internal heat of the earth has nothing to do with the climates. The earth, he says, might be of the temperature of white hot iron two thousand feet below the surface, or at the freezing point fifty feet below, without at all affecting a climate.

Many legends have been connected with these weird, unsightly little creatures, and their habits and manners are curiously interesting. The Thibetans, according to Abbe Huc, tell of a toad that dwells in the midst of a mountain range, and unless he is propitiated by travelers, flings ice and avalanches down on those who pass in the valleys. Toads have no teeth and are disfigured by ugly warts, which give out an acrid but not poisonous juice. The motions of their tongues in catching unwary insects are as quick as lightning, and they eat nothing that is not in motion except their own skins, which, when they cast off, they roll up and swallow. The old magicians used them freely in various ways and German peasants still have a way a great day when the boiler furnished of "crucifying" toads which must be the motive power for turning the great | caught on Easter before sunrise; they wheels of the mill. The people fancied then bury them until Whit Sunday, that they had achieved the summit of and wear the bones in a small bag success, but after a time steam was too about the neck as a charm which slow; then came electricity, which at makes the possessor always win in

BUGENE WELLINGTON. of bronze. panion, and is well liked by the profession.

"Jalouse," by MM. Bisson and Leclercq, ridicules the conception of marriage which is held by the regular middle class Frenchman, and attacks the present system of educating girls.

"Alone in London" and in other com-

panies. In 1883 he gave up acting and

began his career as a manager, and he

has since then handled such well

known stars as Chas. A. Gardner, Rob-

ert Fitzsimmons, Lester and Allen,

Mark Murphy and Barney Fagan. He

is at pesent managing the second

years tour of Gilmore and Leonard, in

their successful comedy, "Hogan's Al-

ley." Mr. Wellington is an energetic

business man as well as a genial com-

JULIE KOPACSY.

her career was thus determined. Sub-

sequently to her engagements in Hun-

garian cities she toured Austria and

Germany. During her engagement at

the Carl theater, Vienna, which was

extended at the conclusion of her orig-

inal fifteen nights to the entire sea-

son, she became widely known and ad-

mired. In the other large cities of

Austria and Germany where she has

since appeared her fame rapidly spread

and last season Manager Conreld se-

cured her for the New York "Gats-

spiel" of one hundred nights. Her success at the Irving Place was imme-

diate and remarkable, "Die Lachtaube"

having afforded her a suitable role in

which to display her charming style.

Miss Kopacsy is married to Mr. Karc-

A heretofore unkon opera, "Die

Kreuzfahrer" (The Crusader), by Lud-

wig Spohr, which was composed in the

beginning of the forties, that is, before

the principles of Richard Wagner had

been published broadcast, has recently

been accidentally discovered in the

archives of the court theater at Cassel

and will soon be performed there, after

being revised and rearranged by Con-

ductor Dr. Franz Beyer at that thea-

ter. It appears, according to the Phil-

adelphia Record, that the entire char-

acter of the opera covers the ideas later

introduced by Wagner and his school,

that music and words must have cor-

relative importance, and that one must

always be subservient to the other,

without particular preference for eith-

er. The idea of the "lelt-motive" finds

its first practical application in this

work, although not as yet known or

The Elizabethan Society is continu-

ing its meetings in London. Among

the papers to be read this winter are

"The Shakespearian Drama Abroad,"

recognized by this name.

zag, whom she met in Debraczyn.

James O'Neill, who talked of a hig revival of "The Dead Heart," still hangs to "Monte Cristo," which Bret Harte thinks is the best novel ever glish Macbeth," by Mrs. Charlotte Car- written.