

The ELECTRICAL WORLD

ELECTRICITY FROM THE SKY

Experiments Being Made in France with Apparatus Designated as "Electric Niagaras"

Assuming that electricity in the clouds is the sole cause of the production of hail, experiments are being made in France with apparatus designated as "electric Niagaras" to drain the clouds of electricity, says Popular Mechanics.

In installing the apparatus huge copper points, bound together by bands of the same material, are placed on the summit of a high tower of chimney, very much in the same way as lightning rods. These are connected with a copper band, which leads to the ground and ends in a reservoir filled with water. By this route the atmospheric electricity flows down into the earth and "empties the clouds," so to speak.

The experiments with "electric Niagaras" have been carried on for some time, but M. Violle, a member of the French Academy of Science, reports that it is still too early to estimate the practical value. A test on a far larger scale was considered necessary, and quite recently the installation of an apparatus of exceptional capacity was completed on the Eiffel tower. This apparatus, it is hoped, will prove the practicability of the idea, but three or four years will probably be required before it is possible to place an exact estimate on the true value of the system.

ELECTRICITY TO POP CORN

Popular Diversion May Be Enjoyed by Any One Living in Modern Flat—No Burned Hands.

Apartment dwellers who have wistfully recalled the days when they popped corn in an open fireplace, will be glad to know that they now can enjoy this diversion in their very modern dining rooms—or in any room, for that matter. A New York man has designed an electric corn popper that is attached to the electric light fixtures in the room for its heat. The popper, which has a capacity of a quart of corn, is surrounded by a wire mesh dome to keep the kernels



Electric Corn Popper.

from hopping out. It is mounted on rubber tired wheels so that it can be pushed about on a highly polished table without damaging the finish. An advantage of this device, even in homes where there are fireplaces and coal ranges to pop corn over, is the comfort with which it can be used—no scorched face and hands.

ELECTRICAL NOTES

Jamaica has two cable stations and a wireless tower.

An electrically-driven machine to split kindling wood is a novelty. Seven electric motor trucks will be purchased by the Manila postoffice.

Electrolytic etching is used by a new process to produce hardened steel dies.

Liberia will be given a wireless station, with 2,500 miles radius, by a French company.

Motor vehicles worth \$919,219 were brought into South Africa at Port Elizabeth last year.

Electric power has been adopted by candy factories because of its ease of control and cleanliness.

Beginning June 1 New York will prohibit the use of wooden mouldings for enclosing electric wires.

The first electric plant in Arabia has just been installed in the palace of the Sultan of Oman at Maskat.

The United States and Canada together have about 80,000 electric signs, containing about 8,000,000 lamps.

In proportion to population Stockholm has the greatest number of telephones for any European city and Madrid the fewest.

In new electrical steering gear for vessels hydraulic cylinders protect the motor from shocks caused by waves striking the rudder.

A speed exceeding two miles a minute has been made by cars on a short German electric railway built by army officers for experimenting.

United States engineers claim that nearly a million-horsepower could be developed from the Green river, a tributary to the Colorado.

A motor, controlled by a switch from his house, is used by an Illinois scientist to give lifelike notions to a scarecrow in his corn field.

To promote the mutual interests of wireless telegraph operators and their employers an international operator's union has been organized.

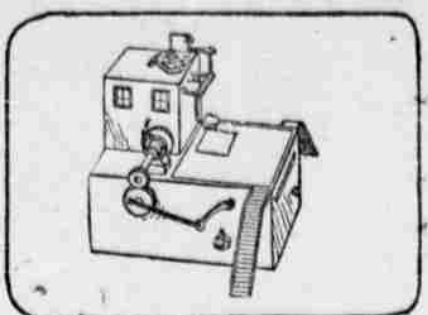
Motormen of the traction system of the English city of Birmingham are given cash bonuses when they avoid accident due to negligence.

The recent installation of a 500-light electric plant in the palace of the sultan of Oman marked the introduction of electrical machinery into Arabia.

ELECTRICAL TRAP FOR RATS

Apparatus So Arranged That Each Rodent Drops Out of Sight Soon as Electrocutted.

The electric rat trap shown in the illustration is somewhat complicated in construction and operation, but its construction is such that each rodent electrocuted drops out of sight, so that the bodies will not frighten others away, says the Popular Mechanics. The electrocutor circuit has one electrode on a trapdoor, while the second electrode constitutes a movable bait-holder. When the rodent steps on the trapdoor and nibbles at the bait, the electrocutor current passes



Electrocutor Trap.

through its body, and at the same time a motor is set going. This motor drives a shaft, one revolution of which causes the trapdoor to first tilt, dropping the electrocuted body into the pit, then restores it to its normal position, in which position it remains until another rodent steps upon it and nibbles the bait.

WORK OF ELECTRIC COBBLER

Threatens to Sound Death Knell of Old Shoemaker and His Bench—Work Is Done Quickly.

When the great shoe factories demonstrated that they could make boots and shoes better and cheaper than the best hand cobblers these knights of the awl and last were relegated to the past—or they managed to ek out a meager living by repairing worn boots and shoes.

And now comes the electric cobbler and the days of the hand cobbler and his bench are numbered, says the Electric News. The electric cobbler, such as can be found in most large cities, consists of one long machine, which is, in reality, a number of machines connected on the same shaft. This shaft is turned by an electric motor. The electric cobbler fixes shoes while you wait. It will sew on a sole, put on a patch, fix the heels or relace a shoe in a very few minutes, as all the work is done by machinery at a high rate of speed. And it is not to be denied that the finished product is fully as good as though the best cobbler had spent a half day on the job. It is the shoe needs resoling the attendant picks up and places a piece of leather of the right size and the machine stitches it fast to the upper. At the next machine an emery wheel cuts down the edge of the sole and trims it to the right shape. The next machine finishes and polishes the edges. From the stitching machine to the polisher is but a step and the work is done long before the old fashioned shoemaker could have the shoe fitted to the last.

HEATER FOR FACE STEAMING

Electric Device Invented by Idaho Man Adaptable for Use in Massage Parlors and for Barbers.

An electric heating pad so shaped as to fit the contour of the face is the invention of Alfred P. Bienkner and Bert Z. Smith of Mountain Home, Idaho, says the Popular Electricity. The device is adaptable for use in barber shops, massage parlors and the like. A wet towel is first applied to the face and then the heater laid on over this, generating steam. The heater



Electric Face Heater.

has double walls, the heating elements being located between the walls. Moreover the heater is adjustable in size and its arrangement such that an air chamber is formed between it and the face, giving a more even distribution of heat.

Lessen Damage by Lightning.

Investigations made over Europe seem to justify the belief that the damage by lightning, in the cities particularly, has decreased to a very marked degree in recent years, and it is explained by the presence of electric wires, which act as a protection in diverting the electric bolts. As the wires are put underground it is expected that there will be noticed a great increase and a return will be generally made to the use of lightning rods.

Fan Shines Shoes.

The polish used on tan shoes is a thick liquid, which must be thoroughly dried before it will give the proper "shine".

To accomplish this the small electric fan has been adopted by numerous shoe shining stands. The process of drying with a palm leaf fan may irritate a customer by making him wait four or five minutes. Electricity does it in about a minute.

Library on Electricity.

The Massachusetts Institute of Technology has been given a 20,000-volume library on electricity and electrical engineering, one of the most complete of the kind in the world.

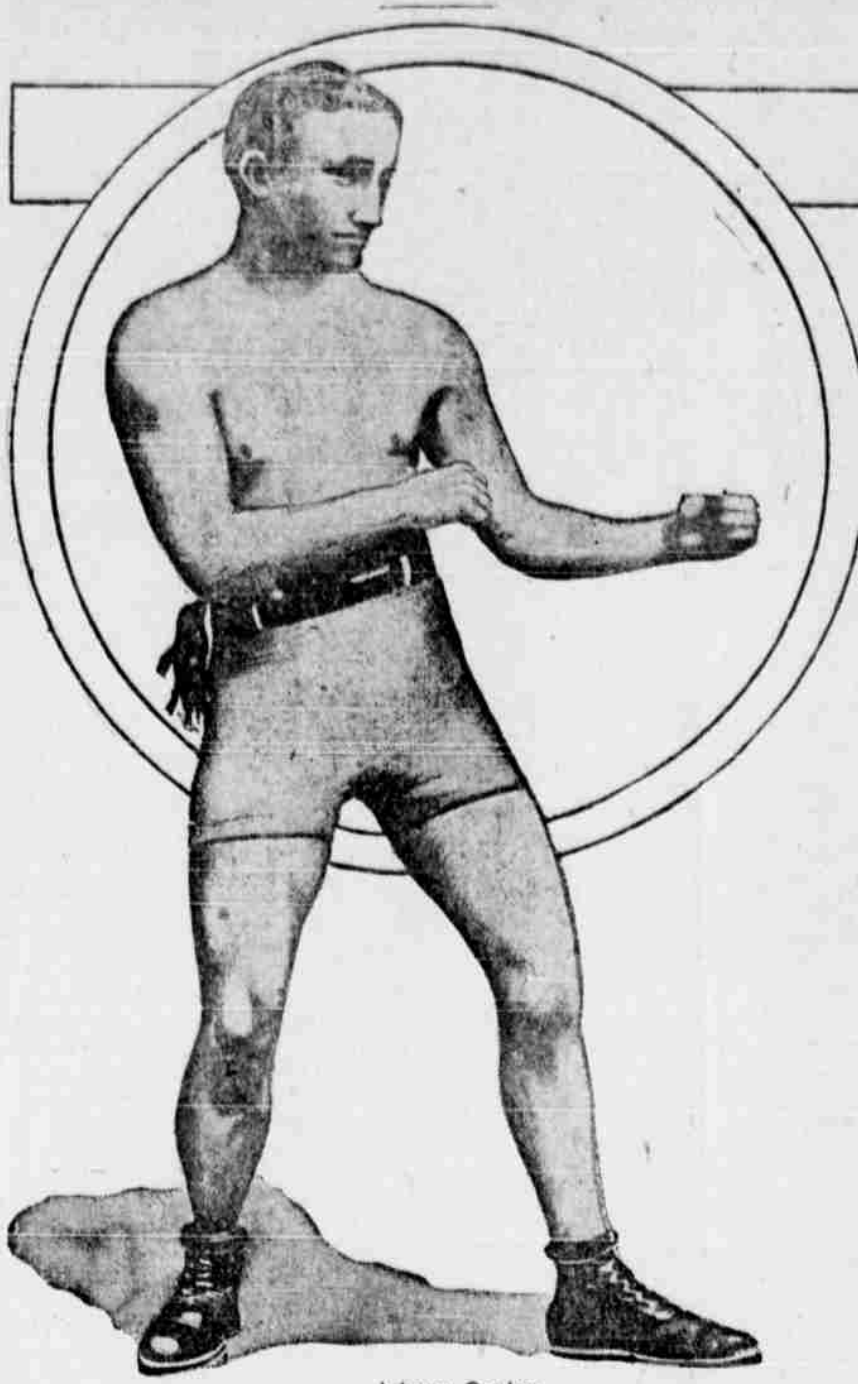
New Tungsten Lamp.

A tungsten lamp for use in motor picture projectors that has been invented in France has a closely coiled spiral filament to condense the light in a small area.

First Electrical Fire Engine.

New York has the first electrically driven fire engine in use in the United States.

BANTAM-WEIGHT CHAMPION NEARING FINISH



Johnny Coulon.

After eight years' ring service, little Johnny Coulon, the bantam-weight champion, has reached the staggering stage of his career and it looks to be only a matter of weeks until he will be decorated with an "ex."

Four new dolls are in the running for the title: "Kid" Williams, the hard-hitting Baltimore boy; Eddie Morgan, the British boxer; Charles Ledoux, the Parisian with the funny face, and Eddie Campi, the clever San Francisco lad.

Williams' punch gives him the "ace."

DAY OF LEFT-HANDER WANING TO SIGN ELONGATED FIELDER

Slim Sallee, Nap Rucker and Rube Marquard, Southpaws, Are Still in Prime Form, However.

Alas, the day of the southpaw pitcher is waning in major leagues, according to a recent statement of Scout Irwin.

Glancing over the pitchers of the National league, one wouldn't get that



Slim Sallee.

Impression. Note the trio—Nap Rucker of Brooklyn, Slim Sallee of St. Louis and Rube Marquard of New York. It would be difficult to find a trio of right handers in the same league to beat these port flingers.

Marquard was largely responsible for the victory of the Giants in the National league race. His nineteen straight wins were a big help to McGraw. Sallee was the leading twirler of the Cards. When he was in any kind of physical shape he was about the hardest man in the organization to defeat. No one questions the effectiveness of Nap Rucker. He fre-



Rube Marquard.

quently has been referred to as half the Brooklyn team—the other half being Jake Daubert.

How Scott Irwin could get the idea in his head that southpaws are dying off, with such a trio to point to, is indeed difficult to see.

Manager McGraw of New York Giants Will Enroll Much Nicknamed Tallest Player.

Early in February John J. McGraw will take up the task of hauling out of the far sticks, foot by foot and yard by yard, the longest baseball player that ever colled himself around a jungle diamond. Not content with the distinction of unveiling the largest piece of pitching statuary ever seen in Harlem, McGraw will now present to the Big City the most extensive outfielder that was ever distributed under Coogan's Bluffs.

The name is William Jacobson and he will come bulging into the big league with enough nicknames to carry him through several columns of biography. Mobile knew him as "Baby Doll," while he is also referred to as "High Pockets" and "Timber Line." His name proves his Scandinavian origin.

He is some six feet six inches from shore line to roof and will weigh more than we dare say. McGraw dug him out of the Three-Bye league a year ago and turned him over to Mike Finn at Mobile after looking him over at Marlin.

Big Bill has a large, open countenance and a serious expression, but he is anxious to learn to play baseball. Finn developed him into a slashing outfielder and the Southern league averages show that he hit better than 250 and stole enough bases to satisfy McGraw that he has improved. Bill was originally a catcher, and Wilbur Robinson tried to induce him to return to that trade, but McGraw prefers the outfielding business. A bad finger forced him out from behind the bat.

Gossip Among Sports

Hughey Jennings had only three players who batted .309 or better last season.

Mr. Ritchie wants reasonable time in which to recover from those fouls before assimilating more such wallop.

The Providence club has sold Catcher Wade Reynolds to Sioux City and infielder Jimmy Gillespie to Chattanooga.

Robert Hedges, president of the St. Louis Browns, says he is satisfied with George Stovall as manager of his team.

It is reported that John J. McGraw, the Giants' leader, has been given a life contract with the New York Nationals.

Pitcher Walter Leveranz, the youngest Manager Stovall drafted from the Coast league, is being touted as a great find.

Instead of firing all his umpires, Tip O'Neill may sign a few more to keep his Western league magnets within their limitations.

Manager George Stallings, the new leader of the Boston Braves, says he will play Bues at third base next season. This puts Arthur Devlin on the minor list.

Maybe one reason why Devlin has been mentioned as the next manager of the Yankees is that he has been canny by Stallings and is looking for a job with some minor league team as manager.

BETTING FADES SPORT

American Sprinter Makes Study of Game Abroad.

Contestants Wish to Fool Handicapper and Races Are Marred by Trickery Caused by Wagers, Says Charles E. Holway.

Charles E. Holway, the American professional sprinter, who has donned spiked shoes and competed in various countries, declares that if there was not so much betting England there would be better athletes in that country. English professionals, he says, waste time and energy trying to fool the handicapper, and this spoils them in the long run. Holway has met and defeated some of the best professionals in the world and has much information concerning athletic conditions there. Some day, he says, Australia will produce an athletic team that will surprise the sharks. The climate there, he adds, is just suited for athletics, and only the small population prevents it from keeping abreast with the countries which enter teams in the Olympics.

In his travels Holway had an excellent chance to observe conditions and the methods of various athletes in training. In speaking of his wanderings and observations Holway says:

"If there was not so much betting there would be more good athletes in Great Britain today. A professional runner wastes half of his career trying to fool the handicapper and waiting for the mark he considers good enough to win comfortably. There are always five or six like that in every handicap, where a man will be on limit, say sixteen yards, when he should be allowed about ten. The handicapper says 'Well, here is a lad that has never won a heat,' so his limit is fixed at 15 yards in 120. Some one must be on that mark. The fellow who has fooled the handicapper gets on this big mark and the scratch man has no chance. A man may have a couple of runners and if there is not much betting they are saved for another year and sometimes two years, and they get so used to not trying that they never get to be good runners. Here is the secret of the American athlete's success. He is always trying. In England the athlete does not try, and I include both amateur and professional—one is as bad as the other. Simply because one amateur athletic meeting has given a \$100 watch and chain runners wait for this prize.

"I like England and was used well there by nearly everyone. They are very hospitable. The reputation all American athletes have when in England is shown thus: The English will say, 'We can back So-and-So; these Americans are always triers,' and I have always felt proud to hear that said.

"Now, in Australia and New Zealand, professional athletes and professional athletics are thought more of than the amateur, because the best times are set up by the professionals, and the people seem to want to see the best, no matter whether professional or amateur.

"The climate is superb for athletics, and when one considers that there are more people in Greater New York than in Australia, New Zealand and Tasmania combined, I think it is a wonderful country to turn out so many good athletes.

"Everyone loves sport in general and there are few that do not indulge in some pastime. I think the Australians are the biggest hearted people in the world. They certainly like Americans, and I find in many things they copy American methods.

"In South Africa the climate is very hot. I could not produce my best results consistently, although at times I ran faster in Johannesburg than I ever ran in my life."

IN PRAISE OF SOCCER GAME

No Place for Disappointing Athlete and Develops Real Athletes—Purely Scientific Game.

Football is a fine game for the schoolboy or college student, but I think many will agree with me when I say it practically ends there, and I think it is wrong when the college student sacrifices his life for such a dangerous game and disappoints his parents, who invested their savings in him in order that he might earn his bread and be of service to his country.

The high schools of Chicago are waking up to this fact, and more interest has been taken in soccer than has ever been before, writes Robert Smith in the Chicago Tribune. As a winter game it has no equal. Here is where the dispiriting athlete meets his Waterloo. Soccer cannot use the smoke fender or the beer drinker, and if Chicago had more soccer players it would have more real athletes. While it is purely a scientific game and requires a fine degree of accuracy and of brain work, the player will always come out on top who observes the laws of physical culture.

Stovall's Catchers.

Manager George Stovall of the Browns will have an entirely new catching department when the 1913 going sounds. The newcomers are Agnew, Alexander, Crossin and McAllister.

Stuffy McInnes Busy.

Stuffy McInnes, the crack first baseman of the Athletics, is the busiest man at the first station last season. He handled 1,609 chances. Leaders of the Philadelphia Nationals was second with 1,523.

\$36,500 in Prize Money for Dogs.

The fifty-seventh annual dog show of the English Kennel club, held in Crystal Palace, London, included 839 classes. The prizes numbered 970, and the prize money \$36,500.

A Healthy Organization.

The National Collegiate Athletic association numbers 94 colleges, universities and preparatory schools, with more than 120,000 students.

'Father, I'm Glad You Smoke Duke's Mixture'

Before we tell you about the boy and his air rifle, we want you to hear about *Liggett & Myers Duke's Mixture*—the tobacco that thousands of men find "just right" for rolling—or tucking into a pipe.

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Duke's Mixture

This favorite tobacco is fine old Virginia and North Carolina bright leaf that has been thoroughly aged, stemmed—and then granulated. It has the true tobacco taste, for the very simple reason that it is *pure* tobacco.

Pay what you will—it is impossible to get a purer or more likeable smoke than Duke's Mixture. It is now a *Liggett & Myers* leader, and is unsurpassed in quality.

In every 6c sack there is one and a half ounces of splendid tobacco.

How the Boy Got His Air Rifle

In every sack of the *Liggett & Myers Duke's Mixture* we now pack a Free Present Coupon. These Coupons are good for all kinds of useful articles—something to please every member of the family. There are skates, sleds, balls and bats, cameras, umbrellas, watches, fountain pens, pipes, opera glasses, etc., etc.

As a special offer, during January and February only, we will send you our new illustrated catalogue of presents, FREE. Just send your name and address on a postal.

Coupons from Duke's Mixture may be awarded with lots from HORSE SHOE, TINELEY'S NATURAL LEAF, GRANGER TWIST, coupons from FOUR ROSES (in double coupon), ROCK PLUG CUT, FLEMINGTON CIGARETTES, CLIX CIGARETTES, and other tags or coupons issued by us.

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HAD ALL THE REQUISITES
Seemingly Extraordinary Essentials Are Needed for the Practice of the Law in Florida.

Will Irwin, the author, was holding forth upon the superiority of California over Florida as a winter resort. "Florida," he said, "is too relaxing. This is due to the fetid air of the swamps."

"There's a story about a young man who was being examined for admission to the Florida bar. The examination ran thus:
"Young man are you malaria proof?"
"Yes, sir."
"Can you ride?"
"Yes, sir."
"Do you own a horse?"
"Yes, sir."
"Is he a good swamp swimmer?"
"Yes, sir."
"Then, young man, I welcome you to the practice of law in this district."

Wives Who Play Alimony.
Are there abused husbands in these United States? Here is the answer: In this state more than 500 divorced wives are paying alimony to weary ex-mates; in Indiana, 450; in Ohio, 673; in Wisconsin, 566. Pennsylvania, though the second state in population, has only sixty such wives.—Chicago Examiner.

Neither Acceptable.
Pretty Daughter—So you don't like Jim?
Her Father—No; he appears to be capable of nothing.
Pretty Daughter—But what objection have you to George?
Her Father—Oh, he's worse than Jim. He strikes me as being capable of anything.—Stray Stories.

Important to Mothers
Examine carefully every bottle of *CASTORIA*, a safe and sure remedy for infants and children, and see that it bears the Signature of *Chas. H. Fletcher* In Use For Over 30 Years. Children Cry for Fletcher's Castoria

Negative Side.
"If I take the bone from your bulldog, what remains?"
"You won't."

Mrs. Winslow's Soothing Syrup for Children teething, softens the gums, reduces inflammation, allays pain, cures wind colic, etc. a bottle 10c.

Bachelors are "women's rights," and widowers are women's lefts.

FOLEY KIDNEY PILLS
Are Rich in Curative Qualities FOR BACKACHE, RHEUMATISM, KIDNEYS AND BLADDER

PISO'S REMEDY
For Coughs and Colds

A man's love used to "burst into flowers," but nowadays a girl has to wait for it to develop by the wearisome process of geological formation.