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SENDING PICTURES BY WIRE.

Is Manufactured Lightning Dutlable? -A Curious Question for the Consideration of Congress -Twenty Questions.

"Electric-Gas."

In an article on water gas and its applications, by Max Geitel, published in a recent number of Glasser's Annalen, is a short historical notice on the decomposition of water by means of electricity, which is here condensed;

When a galvanic current is passed through water, hydrogen is liberated at the negative pole, and in the proportion of one to two. This method of obtaining hydrogen, first tried by Nicholson and Carlisle, in the year 1800, has been often attempted since, but without real success, by Gillard in 1849, and H. M. Paine, of Worcester, Mass., in 1850. In 1890-61 the method of the Belgian Abbi Nolet for obtaining illuminating gas, based on the electrical decomposition of water, created quite a sensation in Paris, where it was brought forward by one Sheppard.

The essential part of the process, which was kept a secret, was said to consist of a certain preparation which was able to modify the water to be decomposed in such a manner that the gas developed could be non-explosive. The gas was said, according to an analysis by Holmes, to contain twelve parts oxygen and eighty-two parts hydrogen.

Moigno, who, in his Cosmos, mentions a prospectus published by Sheppard in the Literary Gazette, remarked that the secret must simply be that the substance is added to the water which seizes upon the oxygen as it is released by the action of the electric current. What is produced is then hydrogen, which is combined with carbon and then burned. In this gas there is a very small proportion of oxygen, oneseventh part by weight, one and one hundred and twelve parts by volume, so that an explosion cannot take place.

Morgno found his conjectures verified when present at an exhibition of this so-called "electric gas," and wrote about it as follows:

"The facts are exactly as we had conjectured. The apparatus is an electromagnetic machine provided with seven induction coils; the water to be decomposed is contained in seven small glass flasks, in which the electrodes lead from these flasks to a single tube through which the gas flows, to be colcret consists in this, that there is added to the water a substance yet unknown, which absorbs (to a great extent) the oxygen as it is liberated, and at the same time facilitates the decomposition of water, so that the gasometer contains principally only hydrogen gas, which is carburretted by a suitable hydrocarbon. The old features of the experiment consists in the fact that the power of a man can in a given time produce as much carburhydrogen gas as is necessary for supplying seven ordinary burners during the same space of time. This is certainly very interesting; but to the supplanting of coal gas by the so-called 'electric gas' is an immense stride."

The matter came, moreover, to the

notice of Emperor Napoleon III., and experiments were made in his presence. One thousand cubic feet of this gas were said to cost 12 cents; the secret preparation cost per 1,000 cubic feet gas, 4 cents. But this "electric gas" was soon forgotten.

The article closes by stating that this extended notice of the production of hydrogen by electrolyses of water is given in the hope that scientists may see in it a means for the production of light and heat, and that, with our great lvance in the last few years in electric science, it may contain possibilities now even undreamed of.

We have on more than one occasion published a note on the complicated electrical appliances which have been manufactured to be used in taking the forthcoming census. We now give a prief description of the process, says the Modern Light and Heat:

The census collector will call with his printed blank, and answers to questions will be written in the usual way. These sheets will then be placed before a porson who operates a machine which may be likened to a typewriter, except that, paper, small round holes are punched in card, The cards, one for each person by three inches in width, and the par-ticular position of hole in a card indicates an answer of the questions in the

printed blank. As many as 250 items of information can be punched out upon a card, al-though no one card would ever have more than one-tenth part of the whole number. For example, no one person can be classed as both white and black American and foreign born, and if foreign born he can only come from one country. These cards, when punched, are placed one at a time in a sort of press, and a lever operated by one hand is brought down, when a series of pins are brought against the card. When-ever a hole has been punched in a card, the corresponding pin passes through into a mercury cup beneath, completing an electric circuit. These circuits, one for every hole, pass out to a large numcounters which operate electrically, and which add upon their dials all items of the same kind upon the same dials. For instance, all white men are counted upon a dial marked "white males;" all business or professional people, upon dials which indicate their particular business or profession. The cards, as they leave the press, are all sorted by means of an electrical sorting device, whereby they may be sep-

arated into groups or states. Come to Omaha.

Several years ago an electric railway was put in at Denver. Col., on the plans and system of a local inventor, and after some time spent in experiments, which were not entirely successful, the project was abandoned. During the time it was in operation or that the current was on, to speak more properly, perhaps, several accidents occurred, horses re-ceived shocks and in other ways and quite naturally, the prejudice of Den-verites was aroused against this form of street locomotion, says the Electric Re view. But this was years ago and it can only be ignorance which causes a Denver paper in a recent issue to say that "there may be such a thing as a successful electric railway system, but it had better be tried in the suburbs." The Denver editor should take a trip east,

GAS MADE BY ELECTRICITY, and by coming so far as Omaha he will find that electric roads are past the experimental stage, and while they are fully good enough for the suburbs, the suburbs are not good enough for them, but they keep right on into the hearts of the largest cities and win highest praise on every hand.

Is Electricity Dutible?

Is electricity generated in a foreign country a dutiable product? The fact that it is proposed to install a generating plant on the Canadian side at Niagara falls has given rise to the question. A large proportion of the current would naturally be utilized on American soil. Solicitor Hepburn, at Washington, to whom the question was referred, said last week that he would interested in the form the gentlemen interested in the proposed generating station that it was contrary to the practice of the treasury department to answer hypothetical questions of this kind. A Chicago attorney to whom the question was put, says the Western Electrician, replied that it would be necessary to enact a special act to provide for the taxation of electricity. Inasmuch as the government imposes duty on copper, etc., he believed that such an act might be passed.

An exchange says, in discussing the subject: "It would be interesting to see a customs house official trying to seize upon an electric current of say 5,000 volts, which was trying to sneak into this free nation without putting up its cash for the privilege."

Pictures by Telegraph. The fac-simile telegraph by which manuscript maps or pictures may be transmitted is a species of the automatic methods in which the receiver is actuated synchronously with its transmitter. By Lenoir's method a picture or map is outlined with insulating ink upon the cylindrical surface of a rotating drum, which revolves under a point having a low movement along the axis of the cylinder, and thus the conducting point goes over the cylindrical surface in a spiral path. The electric circuit will be broken by every mark on the cylinder which is in this path and thereby corresponding marks are made in a spiral line by an ink marker upon a drum at the receiving end. To produce these outlines it is only necessary that the two drums be rotated in unison. This system is of little utility, there being no apparent demand for fac-simile transmission, particularly at so great an expense of speed, for it will be seen that initead of making a char-acter of the alphabet by a few separate pulses, at is done by Morse, the number must be greatly increased. Many dots become necessary to show the outlines of the more complex characters. The pantelegraph is an interesting type of the fac-simile method. In this form the movement of a pen in the writer's hand produce corresponding movements of the pen at the distance station and thereby a fac-simile record.

Electrical Execution. Ironton Register.

They placed the form of the murderer Upon the electric track, And fired 1,700 volts Into his naked back.

He quivered an awful moment,
Then quietly raised his head,
And asked that his friends might take
The corpus of the dead.

But the cruel executioner Again discharged the boots— At least a score or two of ohms And full 3,000 volts.

"Now this is simply shocking," The murderer did say; "Go get a rope and let me die In the good old-fashioned way."

The Mountain Electric Railway. One of the most interesting achievements in modern engineering is the mountain railway recently opened to the public at the Burgen stock, near Lucerne, says the Levant Herald. The rails describe one grand curve formed upon as angle of 112 degrees, and the system is such that the journey is made as steadily and smoothy as upon any of the straight funicular lines. The Burgenstock is almost perpendicular---from the shore of Lake Lucerne the Burgenstock is 1.330 feet,

and is 2,800 feet above the level of the sea. The total length of the line is 938 meters, and it commences with a gradient of 32 per cent, which is increased to 58 per cent after the first 400 meters, this being maintained for the rest of the journey. A single pair of rails is used throughout, and the motor power, electricity, is generated by two dynamos, each of twenty-five horse power, which are worked by a water wheel of nominally 125 horse power, erected upon the River Aar at its mouth at Buochs, three miles away, the electric current being conducted by means of insulated copper wires. The loss in transmission is estimated at 25 per cent.

Brooklyn, N. Y., is to have a new Edison central station of 50,000 lights

The people of San Francisco expect to find themselves, ere long, at the end of an ocean cable, the other end of which will be fastened at Hawaii. To lay the wire, which must be 2,080 miles long, will cost, as estimated, \$1,500,000, and of this sum the Hawaiian govern-ment and people will furnish a third.

There are now in use in the United States, says the Scientific American, more than 5,650 central electric stations for light and power. There are 210,000 are lights and 2,600,000 incandescent lamps. There were 59 electrial rail-ways in operation in March last, and 86 roads in process of construction. The increase of capital in electrical investments during 1888 was nearly \$70,000,000. These are very significant figures, and they point unmistakably to the course of future inventions and discoveries.

Electricity is going to revolutionize mining, as it has already done some other industries, and the time will come when it will be the sole force used for bringing up gold and silver, says the St. Louis Globe-Democrat: Even now you can have an electric plan which will light up your tuonels, run your

tramways, operate elevators in your shafts and work your drills. Ten mills with drills operated with electricity can take out as much ore and tunnel as far as 100 men with picks, shovels and blasting material. The wages of ninety men would soon pay for an electric plant. Besides, you can light your building and save insurance

The remarkable results attained in the use of water at high pressure in combination with a water wheel designed for such work suggests the thought that it might be well for me-chanical and electrical engineers in the eastern states to investigate the merits of developing power in this way, says Electrical Power. It appears very probable that many of the objections raised against water power, as ordinarily understood, may be removed by its use under different conditions.

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Glass Shades.

Has Smiled.

A DESTINY SHAPED THEIR ENDS.

Incidents of Their Lives in This City-How They Grew to Greatness-Train and Stanley, the Explorer.

Omahans Who Have Grown Great.

Though Boston may boast of the many cultured men, it would appear on investigation that Omaha has not been backward in furnishing her quota of men who have won distinction in the world's arena. A BEE reporter has been able through different sources to glean the following incidents of eminent men who have made their residence here for greater, or lesser, portions of time.

Among those justly renowned are Wm. Pitt Kellogg. This gentleman first made his appearance here as judge of the district court in 1862, and presided at the first murder trial that ever took place in Omaha, that of Cyrus Tator, who was condemned and afterwards hanged. Kellogg subsequently occupied the position of governor of Louisana and also that of collector of customs for the port of New Orleans. This last service i merging well into the troubulous times of the late unpleasantness. Still later on he was elected as senator of the same state and served the public welfare with distinction. The only thing that now attests the memory of this man's connection with Omaha is the lot situated on the northeast corner of Dodge and Fourteenth streets which he owned for several years, but which has since passed into other hands.

George Francis Train has been so thoroughly criticized and praised through the press that any lengthy de-scription of him here would be a mere travesty, and it will suffice to write up lightly some of his eccentricities en

Among the literary lore possessed by Mr. Reed is a copy of Train's newspaper run in his own interest during the period of his wild attempt at the presidency of the United States. It is full of the "Hurrah Boys!!!" type of jour-nalism and reckless prophesving which characterized all of Train's sayings and actions. It would seem rather peculiar of this man that he took little stock in his own predictions as regards Omaha's future greatness. But such seems to have been the fact.

Shortly after the advent of the Union Pacific railroad in Omaha he purchased a tract of land in the southern section of the city, now embraced between Tenth street and Twentieth on the east and west, the railroad track on the north, and Vinton on the south. A small sum was paid down to close the sale, but Train suddenly losing all faith in Omaha, the subsequent payments were not forthcoming, and thus he lost property which is to-day valued at over ive millions of dollars.

The invention of horse cars in cities does not seem to be generally accredited to him, but such is his due, and it was through his efforts that they were first introduced in London. The prejudice against them was so bitter at the time that Train was placed in prison for a short time by the Londoners, who ob-jected to having their streets cut up with tracks, on about the same ground that the people of Sherman avenue fought the motor men. They considfought the motor men. They considered him a direct emissary of his satanic majesty, and were not slow in telling him so.

Train has been connected with

Omaha's prosperity, off and on, up to his lectures at the Grand Opera house

that an intellect once so brilliant should be now employed in an occupation so triffing.

It is a fact well known among old settlers that Alfred Conkling, the father of the great Roscoe, once lived and practiced law in Omaha in 1859, with the Hon. J. M. Woolworth. It is recounted of him, that, having once done some legal work for the city council he sent in a bill for \$300. The council made no objection to the amount asked, but as their wealth then consisted mostly of brilliant prospects, they prevailed on Mr. Conkling, after much argument to accept in payment the lot on Howard and Fourteenth, now occupied by the new natatorium. He left word with Mr. Byron Reed that when he could dispose of this realty at the fabulous sum of \$300, to do so. Mr. Reed subsequently sold the lot at a price considerably above the one specified, and it is supposed Mr. Conkling quitted Omaha well pleased with this particular

transaction. Henry M. Stanley, the great African explorer, as is well known, lived here during the years of 1867 and '68. He was then employed as a correspondent for several New York papers, on one of which the New York Herald, he subsequently occupied a position as an edi-torial writer. The Herald in the mean-time discovered his exploring abilities, equipped and dispatched him in search of the long lost Livingston. This last departure was of a sensational character. and is what is called in newspaper circles a "fake." It is to Stanley's credit that he made success out of a small beginning, and his right to be classed among the great explorers of the day is undisputed.

Among people of more local celebrity is William N. Byers, who resided here several years prior to 1859, when he started for Denver in a wagon overland, carrying with him the printing press that threw off the first copies of Rocky Mountain News, of which he was the founder. As this paper has since risen to a place of considerable prominence, as well as having been the first started in Colorado, his name deserves honorable mention in connection

Leroy Tuttle, afterward treasurer of the United States, before Wyman, resided here during the years of 1856-57 and 1858, and was interested in many of

the local enterprises then affoat.

Among the military generals of national fame that have been stationed here at different times are the names of General Crook, of Indian war fame; General O. O. Howard; General Augur, who was general-in-chief of the defense of Washington during the rebellion, and General O. E. C. Ord.

Of lesser rank there is Lieutenant Schwartsa, the celebrated Alaska explorer, and Lieutenant Greely, who was stationed here in the seventies, and who is now of world-wide reputation as the the great Arctic explorer, was well known by many Omaha, people. He is said to have been on a slight, rather effeminate build, and it, was a common joke among his associates that Greely would probably not stand over one or two cavalry charges, but it has since transpired that he did stand what most of them would have quailed at, and with that steadfast courage and bravery that betokens the man.

David H. Moffatt, president of the Denver & Rio Grande railroad, in 1857 worked for Woodworth Brothers, who then kept a small book store on Far-nam street. Moffatt, then a young man, used to sweep out the store morning and sleep behind one of the counters at night. When the Pikes Peak excitement broke out in 1859 Moffatt moved to Denver, where he accumulated the great fortune which has made his name famous in mining circles in

George W. Pullman lived in Omaha

THEY HAVE BECOME FAMOUS last fall. He now passes most of his time playing with children and feeding the sparrows of Madison square, New York, where he occupies a seat almost daily. It seems almost a descration daily. It seems almost a descration that an intellect once so williant should this city. this city.

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