

ELECTRICAL INVENTIONS.

TELEGRAPHING THROUGH THE AIR TO A FLYING RAILROAD TRAIN.

Henry Guy Carleton's Device for Detecting the Presence of Firedamp in Mines, Which He Gives Freely to the World. Author, Inventor, Philanthropist.

(Special Correspondence.)

New York, Feb. 10.—Still more of the marvelous powers of the agency which we call electricity are demonstrated in the last invention for telegraphing from a moving train. The device is the joint work of W. Wiley Smith, Thomas Edison and E. T. Gilliland. Edison himself, pleased as a school-boy, was aboard our train the other day when the device was tested. It is astonishingly simple, now that one knows how the invention works. The principle involved is that of "telegraphy by induction," that is to say, by electrical currents tending through the air. One well known quality of electricity is that it will jump through the atmosphere from one good conductor to another for a distance of over 400 feet. This property is the one taken advantage of in the new invention. The ordinary telegraph wires passing along all railway lines convey the message the lengthwise distance. Hence it jumps, when it reaches the train, from the telegraph lines to the tin roofs of the cars. These are connected by a copper wire. In a little bunk in one of the cars sits the telegraph operator. Over his ears he has two telephone sound receivers, as you see in the illustration.



TELEGRAPHER ON THE TRAIN.

The electric current passes from the wires through the air in waves at the rate of 500 feet per second. These form a continuous musical note. They strike the metal roofs of the car, connected by a wire. These act as an electric condenser, so called. A wire passes from them to the telephone receivers above the operator's ears. By means of these his quick ear catches the sound. By striking exceedingly quick, sharp strokes the sender is able to break the musical sound into notes. By practice he makes these short or long, as is desired. So the ear of the operator in the car catches the sounds, dot and dash, from an ordinary Morse key, and reads them. He has in the car with him an electro-magnet and a battery. When he telegraphs back the message jumps in the same manner from the roofs of the cars through the air to the wires, thence over them to the station. An electric condenser and the telephone receiver enable the operator to catch the sounds.

"But does not that interfere with the ordinary messages?" asked your correspondent. "Not at all," was the answer. "This new method is telegraphy by induction, not by direct transmission."

Our party that made the trial trip with the new invention over the Staten Island railway watched the experimenting in a state of pleased excitement. It was a perfect success.

By means of this railway collisions may be avoided entirely. Its value in this respect can hardly be overestimated. During this memorable trip we discussed the bearings of the new invention on the future of railroading. For one thing, it will probably break up sudden trips of bank presidents to Canada for their health. It is expected that the machine will be put into operation on roads between Canada and the United States first of all. Then a defrauded creditor can telegraph to a moving train upon any road and ascertain whether the defaulter he is looking for is on board.

An Invention for Detecting Firedamp.

Another valuable application of electricity comes from an unexpected source. It will be remembered that the brilliant success of the play "Victor Durand" flashed before the public the name of Henry Guy Carleton as the author. He had for years been a newspaper writer and as the editor of Life had produced the brightest and wittiest society paper of the day. But "Victor Durand" and the announcement that Henry Irving had secured him to write a play, to be finished in an incredibly short time and for an amazingly large pile of money, made him famous. After this followed his marriage, and then it leaked out that he was the author of the humorous work on the editorial page of The New York Times. He has been the subject of much newspaper gossip since. Now he comes to the front as a philanthropist in the invention of an ingenious and sorely-needed contrivance for the purpose of indicating the presence or approach of firedamp and other dangerous gases in coal mines. The idea is bestowed gratis on the world by the inventor, he declining to take out patents on any of the parts or devices which enter into the construction of the machine. This invention will likely bring his name down to posterity linked with that of Sir Humphrey Davy, who devised the present safety lamp. The advantage of Mr. Carleton's device over that of the Davy safety lamp is that he can by his device detect a fraction of 1 per cent of firedamp, while the Davy lamp will indicate only 4 per cent, which is at times dangerous. The way to detect an explosive mixture in a mine with the safety lamp is after

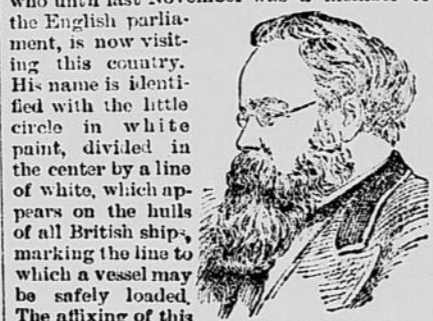


HENRY GUY CARLETON.

the well known recipe for telling a toast—eat it, and if you live it is a mushroom. If you go into a mine with the Davy safety lamp and there is an explosion, it was caused by firedamp. With Mr. Carleton's invention danger is automatically recorded at the office of the company, so that it is not necessary to enter the mine for an examination. It consists, says The Scientific American, of a pair of balances, each having at the beam a receptacle containing a given quantity of hydrogen gas; the receptacles are duly counterbalanced. The moving parts of the two instruments are electrically connected, and when properly adjusted any motion of one balance will instantly affect the balance of the other instrument, no matter how far apart the instruments may be located. Thus, one instrument may be placed within a coal mine and the other in the superintendent's office. Should an inflow of firedamp occur in the mine, the beam of the balance will instantly turn, carrying warning signals and alarms wherever wanted, together with information to the office showing the degree of change in the atmosphere of the mine. Ample time thus will be afforded, whether in night or day, to secure the safety of the miners; and the condition of the mine, whether safe or dangerous, will at all times be indicated by the instrument. Mr. Carleton has had no end of a romantic history. He is the son of Gen. Carleton, and was educated as a mining engineer. His inherited love for a military career drew him into the regular army. Becoming weary of a soldier's life, he turned to earning a splendid living by his pen. Some of his work during the Grant obsequies brought him \$100 a column. As a humorous writer he could not possibly supply the demand for his work only for the fact, as he says, that he comes high. In course of a chat with Carleton the other day he told me of one of the inventions of his fertile brain and how it brought fortune to another. Carleton, by the way, is the most delicious stammerer in the world. When his tongue trips up and fails to work, he does not make any attempt at talking, but simply stops short until the balky vocal organ is ready to go ahead. There are many hitches and delays in his conversation, but it is more than made up for by the richness of his humor and the cleverness of his ideas. His invention on which another reaped the reward was this: While working on a New Orleans paper he found there was a certain style of broad humor and little digs at religion that no paper east would care to own. So he hit on the idea of crediting all these paragraphs to a little Oshkosh paper that he had run across in his army experience. No jokes of that time were copied or circulated so largely as those from what we will call The Oshkosh Gazette. Several years afterwards he happened to be in Oshkosh, and he thought he would see if this paper was still in existence. Instead of the tumble-down shanty, of which he carried a picture in his memory, he found a substantial brick building as the home of The Gazette. He went in and complimented the proprietor on his prosperity. In the course of conversation the latter admitted that it was largely due to the work of some blamed fool in the east, who kept crediting stories to his paper. For a time he could not understand why the "ads." subscriptions and demands for his paper came so suddenly from the east. But when he did "catch on" he said he simply republished as original all the jokes floating around the country credited to his paper. So this unknown paragrapher brought him fame and fortune. "Thus," adds Mr. Carleton, "in the righteous ever triumphant and virtue reaps its own reward." S. H. HORGAN.

The Seaman's Friend.

Mr. Samuel Plimsoll, a man who is known the world over as the seaman's friend, and who until last November was a member of the English parliament, is now visiting this country. His name is identified with the little circle in white paint, divided in the center by a line of white, which appears on the hulls of all British ships, marking the line to which a vessel may be safely loaded. The affixing of this mark was made compulsory by an act of parliament, in the passage of which Mr. Plimsoll was the prime mover, the object of the law being to protect seamen from the dangers of shipping on vessels which, through the cupidity of owners, had been overloaded. To load a ship until this mark is submerged is a punishable offense, and Mr. Plimsoll's efforts to secure the passage of the bill earned him the appellation of "the British sailor's friend." Mr. Plimsoll is accompanied by his wife, and will go directly to Florida, where he contemplates investing in land. He is a vigorous gentleman, past middle age, above the medium height, with a florid face framed with well-trimmed silver hair and beard. In manner he is courteous, and speaks with earnestness and precision.



SAMUEL PLIMSOLL.

Another Sharon Case. "Lucky" Baldwin, the California millionaire, seems booked for a prolonged litigious experience very similar to that which has assailed the late Senator Sharon till the day of his death. The Sarah Althea in Mr. Baldwin's instance is a Miss Louise C. Perkins.

who claims to have suffered in her feelings through the perfidious attentions of the millionaire, the latter, as she alleges, having promised to marry her. As the said promise was renewed from time to time, after the manner of a promissory note, it seems fair to conjecture that Mr. Baldwin regulated sentiment by business, and that his ardent passion for the fair Perkins rose or fell according to the tone of the market in mining shares. She bore with his inconstancy for five years, and then she sued him for \$500,000—just \$100,000 per annum, \$8,500 per calendar month or \$285 a day. As they reckon these things in California, this may not be an exorbitant sum for a young lady to assess as the value of her time consumed in frivolous attentions, but a good many years must elapse before courtship in the east is conducted on the same solid business basis, which must strike many people as rather expensive, even with the most liberal allowances for fuel and gas thrown in.—New York Star.

Morrison and the Hon. Tim Campbell. Morrison, the great free trade horizontal reductionist, was anxious to carry Campbell's vote in his pocket. He invited Campbell to dine with him. After they had inspected the bill of fare, Morrison asked Campbell what he would have to begin on. The statesman from Gotham is said to have replied: "Menu is good enough for me for a starter."—New York Tribune.

Joaquin Miller's Cabin.

Another of the aesthetic houses of Washington is the log cabin of Joaquin Miller, the "Poet of the Sierras." The exterior and the interior of this comfortable cabin are an exact counterpart of similar homes in the west. Miller is an authority on all the usages of frontier life, and here he endeavors to carry them out.



THE CABIN.

This log cabin is built on Meridian hill, outside Washington. The view from it is not to be excelled, and should gratify the most exacting poet's soul. From the well-swept out doors to the unswayed corners of the interior everything suggests frontier life. There is the latch string on the outside and the big wooden button on the inside of the door. The floor has neither carpet nor mats, but rugs of fur. The broad bed as well as a lounge is covered with the skins of wild animals. The room is warmed by a log fire, burning in an open brick fireplace. On the shelf over the mantel are a few indications of civilization in the shape of photographs of personal friends. A tall dip and a little iron clock, together with some pipes, are the only bric-a-brac this mantel affords. The table on which the poet works is a plain wooden one without a covering of any kind. It is the most important piece of furniture in the house, for its broad surface becomes at times a resting place for everything movable while between its straight and strong legs is harbored a collection of old boots and shoes such as one finds in the "repair" corner of a cobbler's shop. At the side of the table which the author usually occupies a furrow is plowed in the boot and shoe collection by his feet when he stretches his lithe and poetic legs. Mr. Miller seems to enjoy the best of health here, and if it were not for a slight halt in his step could not be said to have lost any of his early vigor, a result which he claims is due to his not exposing himself to the unhealthy homes which are the product of our civilization. FERRY BARTON.

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