

Our Correspondence.

Holcomb's Electro-Magnet.

Messrs. Editors:—In your paper of Jan. 12, 1861, you publish, under the head of "Telegraph Magnets," a communication signed W. J. R., in which the writer refers to my "Combination Magnet," recently illustrated and described in your journal.

The writer, after saying that he does not think it will be an advantage, goes on to say that a varying current is a great source of trouble to operators; and if some one would invent an apparatus that would counteract its effect, it would be appreciated. He also attributes this difficulty of adjustment to permanent magnetism, and italicizes the remark that a relay pretty strongly charged with it, "will not work with a very weak current." Now, as there is no effect without a cause, let us consider what the true cause may be.

When the electro-magnet retains its magnetism, after the electricity ceases to pass through its helices, it is because the cores are not made of pure and well annealed iron; consequently, they take magnetism slowly, and part with it in the same manner: hence the confusion and difficulty of adjustment with a varying current. Another cause is, currents of electricity passing through the helices, sometimes from the ground to the atmosphere, and at other times from the atmosphere (or the clouds that pervade the atmosphere) to the ground. There is another difficulty to be encountered. When a current is transmitted a long distance, it becomes protracted—so much so that the signals, if rapid, become blended together; that is, the electricity does not cease to flow through the helices of the receiving magnet during the interval between the transmitted signals. The wind, hail and rain also produce currents of electricity in the wire by friction, and the line itself is a battery of uncommon magnitude. Take, for instance, a galvanized wire connecting New York and Boston; there would be a zinc surface exposed to the atmosphere equal to about one acre. In a damp atmosphere, every square inch of this would excite sufficient electricity to operate a relay magnet with all the rapidity required for telegraphic communication; consequently, in a rainy day there would be a power sufficient to operate 6,272,640 magnets. Owing to various causes, this power may not always be apparent in the offices; yet, such is the arrangement of the zinc-coated wire with the ground plate that, with a damp atmosphere, they possess all the elements of a galvanic battery.

I mention these facts to show that all the difficulties experienced are not due to permanent magnetism. W. J. R. refers to my table as showing the difficulties of adjustment to be very much increased. I certainly cannot see how such a construction can be put upon it. While the permanent magnetism remains the same, which the table shows, the counteracting tension can also remain the same, whether there be a weak or a strong current, provided the following principles be observed: The armature should be in a state of equilibrium during the normal condition of the magnet, and the tension of the spring, while offering no resistance to the armature at starting, should increase in the same proportion as the varying force of the magnetism.

But one word in regard to that misunderstood table, which was published in the hopes of provoking an investigation by some one that was better acquainted with the various phases of magnetism than myself. I wished to show by it that one electro-magnet, strongly charged from a permanent steel magnet, is nearly twice as powerful, and will work with a weaker current, than when a steel magnet is not used. Respectfully yours,
A. G. HOLCOMB.

The "Original" Revolver—Colt's Patent, &c.

Messrs. Editors:—I notice that a correspondent of the Petersburg (Va.) Daily Express has come to the conclusion that the original revolver of the Colt style is the one described by that celebrated traveler, Bayard Taylor, in his book entitled "At Home and Abroad." From what this distinguished gentleman says, I am led to believe that he is of the same opinion. My object in writing this letter is to deny that conclusion, and to point out the genuine, original revolving firearm. I will quote Bayard Taylor's words:—

Warwick Castle, only six miles distant, offers a remarkable contrast to Kenilworth. Like the latter, the date of its foundation is unknown, and its most ancient part bears the name of "Caesar's Tower;" but, while Kenilworth is

fast crumbling to pieces, this remains entire, and is inhabited in every part. * * * We saw, also, the armory, which is usually closed to visitors. It is rich in the ancient armor and rare and curious objects, among which I may mention the crystal-hilted dagger of Queen Elizabeth, her skirt of chain mail, her saddle and the trappings of her horse: but I was most struck with two things—a revolving musket, more than two hundred years old, and a mask taken from the face of Oliver Cromwell after death. The revolver (of the antiquity of which there can be no doubt) is almost precisely similar to Colt's, having a single barrel to which is attached a revolving cylinder containing six chambers. There is a flint lock and pan to each chamber, and the firing of one discharge brings the succeeding chamber to the barrel. I had been aware of the existence of this curious weapon, but was not prepared to find the idea of a revolver so perfectly developed. (Page 56 and seq.)

The original one, similar to Colt's in style, is in existence at the present time, and was on exhibition at the Mechanical and Agricultural Fair at Newbern, N. C., in 1859. The inventor was a poor man (a blacksmith), and scarcely could get the necessary funds to pay his traveling expenses and for his patent. His friends (?) laughed at his folly—the absurdity of spending what little money he had in such a reckless manner. He finally started, but between Richmond and Washington City he lost his fortune.

It is useless for me to say more; the balance of the story may be imagined. The poor man returned home to be laughed at and scorned and reproached for his shallowness of mind. Alas! poor Gill, the blacksmith, died, and was buried

"Unwept, unhonored and unsung."

Any information concerning this revolver can be obtained by addressing the Mayor, Frederick Lane, or the Matthews family, at Newbern, the latter of whom own this "implement of warfare." The one intended and used as a model has fourteen chambers, instead of five or six, as have the most of Colt's make. The barrel is brass. While I was editing the Newbern Gazette, I kept putting off my description and illustration of this instrument until the paper was discontinued. Revolving fire arms have an origin, and the nation should know who is the original inventor. I am, &c.,

THOMAS R. MURRAY.

Lake Landing, N. C., Jan. 12, 1861.

A Grateful Inventor.

The annexed letter, from an ingenious inventor who has just received a patent, we recommend to the perusal of any person who is about to apply for Letters Patent, and has not decided whom to employ as his attorney to prepare the necessary drawings and specifications, and act as his agent before the Patent Office:—

Messrs. MUNN & Co.:—Your favor came duly to hand, and, in response, I must acknowledge my thanks and indebtedness to you, which I hope you will accept as part equivalent so justly due you for the unwavering energy and untiring zeal manifested in my case. I must also confess that I am highly delighted with the drawings in my Letters Patent; indeed, nothing in their line can excel them in point of beauty and systematic order. And, more than this, you have discharged your duty toward a dependent client nobly; indeed, you have accomplished more than I could even hope for, and that in regard to my claims, one of which I expected would be among the missing. Since my first patent, I have received many solicitations from other Patent Attorneys, but preferred placing my case under your own personal supervision, and in that I have not been disappointed; and I am glad that I have done so. I recommend to all my brother inventors (especially those that may not be so well advised in relation to your excellent facilities as I am) that, should they be so fortunate as to place their case in your hands, they may rest assured that they have made a safe investment, as far as the procuring of the patent is concerned. Respectfully yours,
J. McNAMEE.

Easton, Pa., Jan. 5, 1861.

INVENTORS BUSY, BUT PATENTS DIMINISHING.—We are receiving vast numbers of letters describing new improvements from every section of the country, which evinces activity among the inventors; but the numbers who apply for patents have latterly somewhat diminished, as the reader will infer by the number of patents issued weekly and reported in our columns. The number of patents issued last week, and reported on another page, is only twenty-nine, thirteen (or nearly one-half) of which number were solicited through this office.

Column of Varieties.

A Paris correspondent writes of a billiard table invented there which may be used as a dinner table, a chest of drawers, a bed, a bathing tub and a stove.

Iron pipes, when laid in the ground and packed all around with dry clay, do not rust. The clay protects the metal from the action of oxygen in moisture and air.

Brown sugar can be bleached nearly white by placing it in a close chamber and submitting it to the action of sulphurous acid vapors, which do not injure its quality.

The steam tonnage of New York is 120,589 tons, mostly marine. The next port in importance is New Orleans, the steam tonnage of which is 75,789—mostly river boats.

The entire continent of Australia has been recently crossed for the first time by white men. This was accomplished by J. Macdonald Stewart, of Edinburgh, and two attendants.

The steamship *Tennessee*, which sailed from New Orleans for Vera Cruz lately, took a large quantity of material for the new railroad from Vera Cruz to the neighboring village of Medellin.

A prize of \$2,500 is offered by J. Silversmith, of San Francisco, Cal., for the discovery of a process whereby gold and silver can be profitably separated from the sulphurets of California.

The new Armstrong guns cost the English government \$10,000 each. For their construction, a grant of \$10,000,000 had been made by Parliament, of which the greater part has been expended, and 451 guns of every caliber made.

At ordinary atmospheric temperature, the conducting power of pure copper is to that of hard drawn silver as 93 to 100. Annealed copper wire is superior to hard drawn wire, the former being to silver as 97 is to 100.

The Commissioners of Sewers in London have granted to our countrymen, Mr. G. F. Train, permission to lay down a single line of horse railway in Moorgate-street, and a double line in Finsbury-place, running northward to the boundary of "famous London town."

Sacramento, Cal., is the Cincinnati of the Pacific regions, in the way of demolishing porkers. There are several pork-packing establishments in that city, each of which takes down about 80 grunners per diem during the hog harvest.

Although copper is inferior to pure silver for conducting electricity, strange as it may seem, it loses some of its conducting power when alloyed with silver or any other metal. This has been determined by a series of experiments communicated to the Royal Society by Professor Wheatstone.

The French Minister of Finance has announced, by advertisement, that we will receive, on the 18th of next month, tenders for 3,000 tons of Virginia, 4,500 tons of Kentucky, and 1,500 tons of Maryland tobacco.

A line of telegraph is about to be constructed between Teheran and Bagdad, so as to connect Persia with Europe by the electric cord. Persia is becoming civilized; the capital of the Mohammedan empire, secluded on the banks of the Euphrates, is opening its bosom to receive improvements.

When arsenic is thrown upon melted copper, a small part of it volatilizes; the greatest portion of it is absorbed and forms an alloy of a gray color, very hard and brittle. Sulphur, selenium and tellurium, mixed with copper, render it so rotten that it cannot be drawn into wire. All these substances should be carefully avoided in smelting copper.

The Mobile Wine Company report that, should the season be favorable, they expect to make this year 10,000 gallons, or 500 gallons to the acre. The actual stock of the company is now \$20,000. It is proposed to add to this \$10,000. During the two years which the company has been in existence, the stockholders have paid in 40 per cent on the capital subscribed.

A distinguished physician lately announced that one reason why so many people have the dyspepsia is because they have no sympathy at table. They eat alone at restaurants, and devour their food like wild beasts, instead of sitting at the table with their families, where their sympathies would be called into healthful activity, and where they would eat like civilized beings. There may be something in this idea. At any rate, it would do no harm to test it.