New Inventions.

Progress of Telegraphing.

Marshall Lefferts recently delivered a lecture before the Geographical Society, in this city, which contained many interesting items, but as reported in some of our daily papers, it contained many incorrect statements; these we ignore in an abstract of it.

The lecturer traced its first discovery and progress of the uses of electricity for telegraphing, remarking that Arthur Young, in his travels in France, in 1764, found a man who had arrived at the power of communicating across a room by means of an electric battery, and forming an alphabet from it. Up to 1798 the knowledge was confined to the electricity of friction. Since that date that of chemical electricity has been known; but it was only when Prof. Henry, of the Smithsonian Institute, made the great finishing discovery of magnetic electricity, that its ultimate usefulness was assured.

"The first line of actual telegraph was established by Morse and others in 1844. In Europe there are more than 37,000 miles of wire, divided as follows:—England, 9,200; Germany and Prussia, 5,000; France, 4,500; Austria, 3,500; Turkey, 1,200; Prussia, 2,800; India, 500; Spain, 450; Denmark and Sweden, 800; Italy, 1,900; Switzerland, 1,000; Holland and Belgium, 1,000.

We have in this country about 35,000 miles, and it is worthy of remark that while the lines of Continental Europe are mostly run between great cities and military posts, ours extend over all the country."

The lecturer gave illustrations of what had been already done, in the way of binding together the world by this chain of wire, extending from London to Sebastopol, and soon to be extended to Africa and across Asia.

"But the great link yet wanting is the sub marine line between this country and Europe. He commented upon the supposed advantages of the two routes; that from Cape Race to Cape Clear had been surveyed by Maury and declared practicable. The ground was very level, and there existed no difficulty in the way of laying the cable. All that could be apprehended was possible want of strength in the cable for so great a distance, and the fear which some entertained that an instrument could not be worked upon so long a circuit. The northern route by Greenland, had the disadvantage of deeper water to lay in."

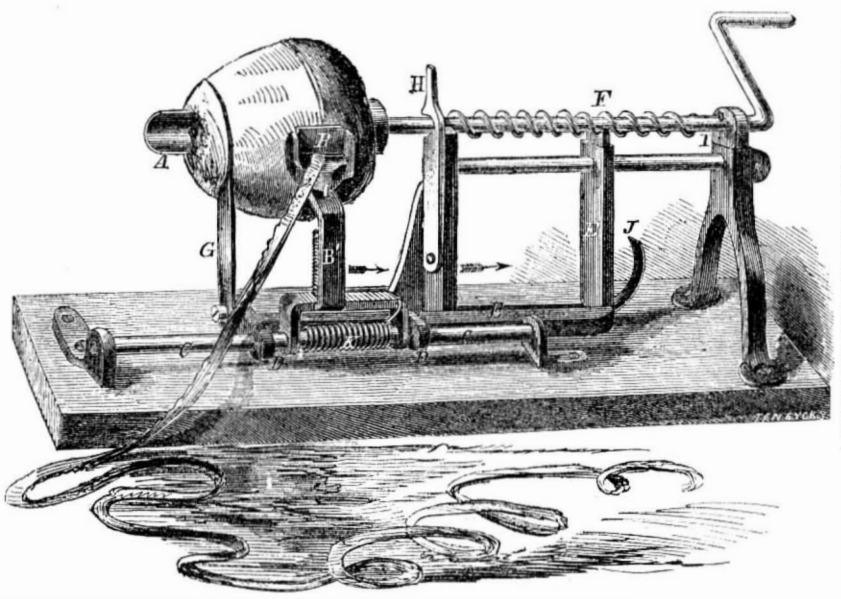
The lecturer did not apprehend any difficulty in the way of working upon so long a circuit. He had himself worked 1 000 miles, and in Europe the feat had been accomplished of working 1,800.

We have always understood that Cooke & Wheatstone's telegraph was set in operation in England, in 1840. When Dr. Lardner delivered his course of scientific lectures in 1841, in this city, he described the English telegraph as being in operation, and that he was an eye-witness to its success and usefulness on the Great Western Railroad. Many who heard those lectures will remember this. We believe, from evidence, that Cooke and Wheatstone established the first working line of telegraph, but their invention is undoubtedly inferior to the Morse Telegraph.

Curious Coincidence Relating to two Inventions.

The last number of the SCIENTIFIC AMERICAN contained the claim of a patent granted at Washington to Thomas Smith, of Pittsburg, Pa., for a bullet having a spiral cavity within it to give it a spinning motion on its long axis when passing through the air, and when fired from a smooth bore fire-arm. A bullet molded on the same principle and designed to accomplish the same object was described on page 245, Vol. X, SCIENTIFIC AMERICAN, as the invention of J. W. Cochrane, formerly of this city, but at present on a visit to Europe. This is rather a singular circumstance, and another no less so relates to Lieut. Rodman's method of casting cannon and cooling them, described on page 261, this Vol., SCIENTIFIC AMERICAN, being also described in a late number of the London *Mechanics Magazine*. It is therein stated that Mr. Cochrane has introduced into that country an improvement in casting guns and mortars, calling him the inventor, and describing Lieut. Rodman's plan of casting with a tubular core, and then cooling the gun by forcing a current of water through the tube. It appears to us, from the information we have had of these two inventions, that while Mr. Cochrane is the first inventor of the hollow spiral bullet, Lieut. Rodman is the inventor of the tubular core for the casting of cannon, and the cooling of them by continuous currents of cold water forced through them. There may be something *peculiar* connected with these two inventions not yet brought before the public.

MACHINE FOR PARING, CORING AND SLICING APPLES.



Apple Parer, Corer, and Slicer.

The apple is placed upon a gouge shaped holder, A, and revolved by means of the crank. The paring knife, B, is mounted on a standard, B′, which slides on rod C. Standard B′ is connected by means of brackets, D, with slide, E, the upright of which, E′, is forked, so as to mesh with the wire screw thread, F. G is the slicing knife standing upright, and attached to one end of E.

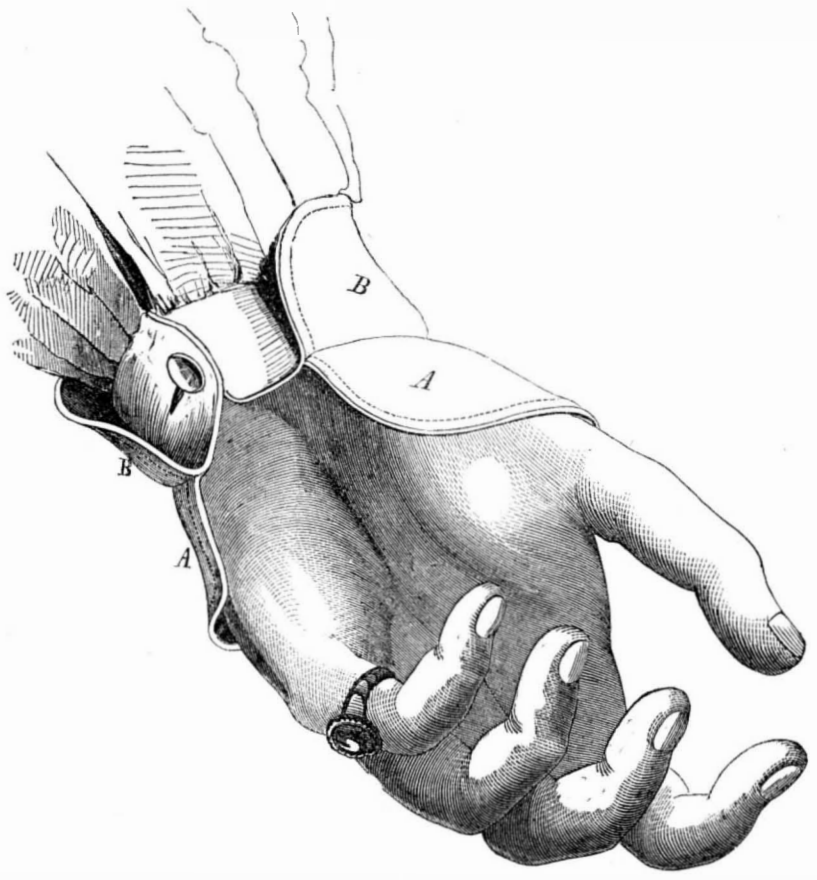
By the rotation of the crank, screw F operates on upright E′, and causes it, with slide, E to move in direction of arrow, carrying along the standard, B′, and slicing knife, G. The paring knife, B, is thus made to pass across the surface of the apple while the latter rotates; the slicing knife, G, also cuts into and slices the apple, with a spiral cut, just as fast as it is pared.

The coring is done by holding the apple with one hand while the gouge, A, is revolved backwards. One edge of the gouge is made sharp for this purpose. The apple having been removed, the catch, H, is now thrown back, in order to permit the crank shaft to rise backwards on its hinge at I, so as to clear the screw, F, from the fork at the top of E; the force of spring J is now sufficient to push E′ and its appurtenances—slide, E, standard, B, &c.—back to their starting point, ready for another apple. These operations are all done in less time than is required to write a line of this print.

The machine is quite simple, economical to manufacture, and operates with much precision. The spiral cut produced by the knife, G, leaves the apple sliced through the center and yet it does not fall apart; a string may be run through their centers or the apples may be placed on shelves, for drying, without further trouble. The neat and perfect manner in which this little machine does the work seems to render it a general favorite. We are told that a child with one of these contrivances can pare, core, and slice from 2 to 4 bushels of apples per hour. Knife G turns down out of the way when slicing is not wanted.

Mr. Charles P. Carter, of Ware, Mass., is the inventor, of whom further information can be had. Application has been made for a patent.

IMPROVEMENT IN WRIST-BANDS.



Patent Wrist-Band.

This improvement concerns gentlemen and ladies—gentlemen particularly, who value neatness in their personal appearance. It consists in attaching to the shirt an extra wristband, to be held in reserve; so that when one cuff becomes dirty it may be tucked under out of sight, while the other, clean and unsoiled, is turned down, for use.

In our engraving A and B are the two cuffs. When A becomes soiled, the wearer unbuttons the band, and folds it under out of sight, and turns B down in place of A. When turned back, in reserve, as in the cut, it will be seen that the surface of B is always protected and kept clean, ready for use. For a sudden emergency this contrivance is "just the thing." It is alleged that its use avoids so frequent washing, and thus saves wear and tear of the whole shirt—a clean wrist-band may be thus kept in reserve, preserving for a longer time a general neatness, the wrist-band being that part of the shirt most exposed and soonest soiled. In short, the patentee says, "it may be termed a self-saving, self-cleaning, anti-washing wrist-band."

The inventor is Dr. R. K. Chandler, of Richmond, Va., but for the present at the Astor House, New York, where further information can be had. Patented May 22, 1855.

Coke on Railroads.

We have often advocated the use of coke on our railroads as a substitute for wood, and we are happy to perceive that periodicals—exclusively devoted to railroad interests—have come up to our aid, arguing for its adoption even though it may be more expensive than wood. They plead for it because of its greater cleanliness, arguing justly, that the absence of smoke and sparks from railroads would induce many to travel by the rail who now choose the steamboat.

On the Hudson River Railroad recently, experiments were made to test two kinds of coke as fuel—American and English—to ascertain if it would be expedient to buy a quantity of English coke, which was offered at a low price. The experiments were made with a common wood-burning locomotive. The English coke burned freely, and made steam well, but soon melted the grate bars and clinkered. The American coke burned freely, and did not clinker nor injure the grate. The amount of water evaporated per pound, as compared with wood, was not ascertained; but this was not required for the amount of water which a pound of good coke can evaporate, under favorable circumstances, is well known. As coke is the only fuel that is used on all the English locomotives, its successful application (if its cost will allow of it) on American railroads need not be questioned. It is for our railroad managers to consider well its relative economy as compared with wood, which must soon be abandoned, we think, on our Eastern railroads. If anthracite coal will answer as well as coke, of course we think its use is preferable, because it is cheaper, and is just as cleanly, emitting no smoke nor sparks.

New Stone for Pavements.

A coarse-grained, whitish stone, has been proposed as a substitute for our granite pavements, by Messrs. Bell & McEntee, of Kingston, Ulster Co., this State. The merits claimed for it are, it does not wear smooth, therefore if it were used for city pavements, it would always keep rough, and horses would not be liable to slip and fall upon it as they do on the smooth worn granite pavement.

We have received a sample of this stone, in order that we may form and express some opinion regarding its qualities for the purpose stated. It will no doubt wear uneven, for its crystaline structure is not uniform, and it will therefore maintain a rough surface, which is a durabie quality in preventing horses slipping on the street. On the other hand it does not possess the cohesive strength of the trap rock pavement, therefore it cannot be so durable, and it appears to us that it would soon make our streets obnoxiously dusty.

Artificial Guano.

Some artificial guano was exhibited last week at the Farmers' Club in this city, made from fish, and said to be very good, and will not cost over $10 per tun. Vast quantities of king crabs can be obtained on the coasts of Long Island and New Jersey, which, by drying and reducing to powder in mills, would make as good manure as Peruvian guano.

An omnibus company is about starting at Liverpool, similar to those of London and Paris, to consist of a thousand shares of £10 each.