

Adaptation of Electricity to Useful Purposes.

Until the invention of the electric telegraph it had not been found practicable to apply the power stored up in electricity to useful purposes. Its nature and characteristics had indeed engaged the attention of scientific investigators for many years, and nebulous ideas of the possibility of utilizing it for the service of mankind had occurred to those who were engaged in its study, but without practical result. Finally Cooke in England and Morse in America, neither of whom belonged to the scientific fraternity, succeeded in solving the problem which had so long baffled the most able scientists of the world, and invented systems of electric-telegraphic communication which proved to be practical and successful. It is but justice, however, to concede that their inventions were only possible through the investigations and discoveries of the philosophers who for so many decades previously had made electricity a study.

These inventions have had an importance and a far-reaching effect, which probably was but dimly foreseen, even by the inventors or the enthusiasts whom they succeeded in interesting in their inventions. Within little more than the life-time of a generation they have revolutionized the social and business systems of the world. Year by year the telegraph is more and more indispensable, and has already become so essential that a total suspension of telegraphic communication, even for a day, would be regarded as a public calamity. The crude but effective apparatus at first used has been simplified and improved upon, and the capacity of conductors for electrical transmission has been developed and practically utilized, and these have become so familiar to the public that results which but a short time since would have been regarded as marvelous and scarcely credible, are now looked upon as of no very special note. Inventions which double and quadruple the available capacity of conductors are not regarded as worthy of special notice, and we are looking expectantly for the time when these results shall be notably exceeded, and six, eight, and even a larger number of circuits shall be regularly operated over a single conductor, as six and eight have already been worked in experimental trials.

The speaking telephone opened up a new field of telegraphic experience and research, and although but recently invented, has already been generally adopted for special and private lines. By means of telephone exchanges, which are being established in all parts of the country, a person is placed in direct oral communication with the persons and places of business of those with whom it is desired to confer, and thus business and social intercourse is facilitated and promoted. The number of telephones already manufactured and in use in this country is probably not less than 50,000, and is being increased as rapidly as they can be manufactured. It naturally makes its way more slowly in Europe, but is being extensively introduced there, and the American system of telephone exchanges is beginning to be looked upon with favor.

By the invention of the telephone we are enabled not only to communicate orally over considerable distances, but also to study the utterances of nature. The voices of the volcano and the earthquake, telephonically reported, reveal to us the titanic workings in the great laboratory of the earth. The lightning announces its coming before even the flash is visible. The pulsations of the vital fluid within our veins and arteries convey to the ear of the physician and surgeon valuable information of our physical condition. Daily new uses are found for the telephone and microphone, and it is not likely that these will be soon exhausted.

Electricity guards our buildings and property against the spread of conflagrations and the attacks of burglars and thieves; it gives us light rivaling almost the brilliancy of the sun itself; it pierces the hardest rocks and metals, and furnishes the motive power required to run our sewing machines. It traces our pictures, and prepares the plates for the printer; it regulates the movements of our clocks and plows our fields (though not the latter as yet to any considerable extent). It is, in fact, becoming the universal servant and agent of mankind, and it is impossible for us to conceive to what uses it may not yet be put for our convenience and benefit. So much has already been accomplished through electrical agency that the public mind is prepared to credit even the most marvelous achievements which may be claimed for it. It is indeed a wonderful manifestation of a force without doubt co-extensive with the universe itself, and one of the most useful and terrible agencies.—*Journal of the Telegraph.*

The Colors of Double Stars.

To test the question whether the colors of double stars depend in any way upon their relative distance from the observer, M. Niestein, of the Brussels Royal Observatory, has drawn up a table of colors of 20 binary groups, according to nearly a century of observations by astronomers. The results of his inquiry, as given in the *London Times*, are briefly these:

1. In systems with well marked orbital motion, and especially in those of short period, the two components have ordinarily the same yellow or white tints.
2. In systems, about which we have color observations sufficient to enable us to connect the color with the position of the satellite in its orbit, the principal star is white or pale yellow, when the companion is at its periaster (i. e., nearest the principal), whereas, in the other positions, it is yellow, gold-yellow, or orange.
3. The companion follows the principal star in its fluctua-

tion of color, and often surpasses that in color as it withdraws from periaster.

4. The same similarity of tints in the two stars appears both in binary groups with rectilinear motion, and in those with orbital motion and long periods of revolution.

5. In perspective binary groups the companion is almost always blue. This last observation is thought to point to a superposition of tint (as in the case of distant mountains looking blue). From these groups the small star may be reasonably supposed much further distant than the large one; in fact, near the confines of the visible world. May not this blue color (it is asked) be due to a gaseous medium expanded in celestial space, acting on luminous rays which traverse it quite like our own atmosphere, of which it is, perhaps, merely the continuation?

The Cost of Living.

The following table of the retail prices of the more important articles of food and clothing in Lewiston in 1860 and 1879 will be found, says the *Lewiston (Me.) Journal*, of value in determining whether farm products and the wages of labor to-day will secure more or less of the conveniences of life than they would before the war:

	May 11, 1860. Retail.	May 11, 1879. Retail.
Beans, bushel.....	\$1.25 @ \$1.75	\$1.70 @ \$1.85
Beef, pound.....	6 @ 12	8 @ 20
Cheese, pound.....	10 @ 12	10 @ 12
Chickens, pound.....	9 @ 11	12 @ 13
Coffee, pound.....	12 @ 25	15 @ 30
Corn, bushel.....	— @ 1.00	— @ 55
Eggs, dozen.....	12 @ 14	12 @ 14
Flour, barrel.....	5.50 @ 8.00	5.50 @ 8.00
Molasses, Havana, gallon.....	26 @ 28	— @ 40
Molasses, Porto Rico, gallon.....	25 @ 36	— @ 50
Oats, bushel.....	— @ 40	— @ 37
Pork, pound.....	8 @ 10	6 @ 9
Potatoes, bushel.....	40 @ 42	80 @ 90
Raisins, pound.....	10 @ 14	8 @ 12
Sugar, white, pound.....	10 @ 11	8 @ 9
Good print, yard.....	10 @ 12	5 @ 6
Sheetings, yard.....	8 @ 12	7 @ 8
Tea, pound.....	36 @ 65	30 @ 60
Butter, pound.....	18 @ 20	18 @ 20
Dry hardwood, cord.....	4.50 @ 5.00	5.00 @ 5.50
Hay, ton.....	10.00 @ 13.00	10.00 @ 13.00

It will be noticed that most of the articles which are higher than before the war are farm products, and this increase is beneficial to the farmers. Beans, beef, chickens, potatoes, and some other articles of farm produce are higher than before the war, while most articles of manufacture, pork, corn, sugar, prints, and sheetings are lower than before the war. Butter, hay, and flour are about the same. On the whole, a family can probably purchase the necessaries of life at least as cheaply as before the war, while wages are generally higher than they were then. The expenses of many families are greater than before the war, because flush times led all of us into new purchases. More and better clothing is bought, many and more frequent changes in obedience to the dictates of fashion are made, and many more articles of luxury are purchased than before the war. By the practice of a strict economy in all respects as before the war, the same degree of industry would be better rewarded than it was then.

Who will Can Cream?

A London physician, J. Milner Fothergill, M.D., thinks that we ought to export cream to be eaten with the canned fruit which we send abroad so largely. He says, in a recent letter to the *Herald*:

"It is quite certain that such cream would soon sell freely, and at a price which would be remunerative. What practical difficulties there may be in putting cream into tins, and whether the lactic acid would act upon the tin injuriously, and whether the cream should be prepared after the Devonshire fashion or the ordinary plan, of course I can form no conjecture. But these could soon be overcome I feel sure, and an unlimited supply of cream would not only be a boon to the householder, but would be of service to the medical profession. Cream with stewed fruits would be a very palatable food, much more so than cod liver oil, and could be had all through the winter if prepared in the manner I suggest. For invalids, dyspeptics, and convalescents such a dietary in winter would be most desirable, to say nothing of those who would take it from choice.

"If cream could be so provided, and the practical difficulties overcome, the American farmer would be benefited and the English consumer would be grateful."

A Better Butter-package Wanted.

A correspondent of the Cincinnati *Commercial* maintains that there is a fortune awaiting the man or woman who can devise a neat, cheap, tasteful package which will enable the tidy housewife and the careful dairyman to place before the public their gilt-edged butter all redolent with new mown hay, and suggestive of cool springs, shady groves, rich pastures, and peace and plenty among clover blossoms and fragrant shrubs. A package is wanted that will protect the handiwork and pride of the dairymaid from the ruthless, greasy touch of the huckster and grocer's boy. The butter makers want to place their choicest butter in its freshness, sweetness, and fragrance in dainty pats and attractive form, on the table of their customers unsullied by the defiling touch of any middleman. He may be and must be their carrier, but the wants of the business will never be met until a neat, cheap, and tasteful butter-package protects the butter in the transit from the milk house to the table of the consumer.

Particular stress is laid on the appearance of the package, for the imagination of the buyer is first and mainly appealed to through the eye. That organ captured, he tries by the nose, and that not offended, the butter must be tasted. If

the first appeal is a captivating success, the butter will sell, though the organs of smell and taste be not so highly pleased. Assuming that the butter itself is good and satisfactory in all respects when packed, the dealer, in selecting his package, will be careful to guard against four things, which will depreciate the butter before it may reach the consumer:

1. Any foreign taste of wood, or gum, or oil.
2. All contact with air.
3. The variations of temperature.
4. Leakage or soakage.

Pure tin will meet these conditions, but it is too costly. Tin-lined wood answers indifferently well. Paper will not do at all. Possibly, however, a case of moulded paper saturated with pure white paraffine, or some other inert, odorless, clean, and comparatively inexpensive water and acid proof compound, might answer the requirements for the inner package. Of course the external envelope must be stronger to bear exposure and rough handling. Our inventors ought to take this matter in hand.

Platinum in California.

Mr. Edison's call for platinum has developed considerable interest in the search for that metal. According to Prof. Stewart, of Virginia City, Nevada, platinum has been found in Santa Clara county, California, in a seam of talc, incased in hard schistose rock. About two years ago men worked the mine, selling the platinum in San Francisco for \$12 or \$15 an ounce. They mashed up the talc and separated the crystals of platinum by some simple process. The schistose rock was so hard, however, and the seam of talc so narrow—being only from 12 to 15 inches wide—that the men were compelled to give up the work as unprofitable. But the professor has an idea that by the application of proper instruments the mine might be made to pay. The seam, although narrow where explored, might widen as depth was gained. At any rate, that probability would be in favor of the miners.

It is also stated on the same authority that in Trinity and Humboldt counties, California, in the early days, the gold was so heavily alloyed with drift platinum that the purchasers of gold dust, not knowing the value of platinum, frequently refused to buy the alloy at all. Sometimes the gold would be alloyed to such an extent that it would not fetch more than \$3 or \$4 an ounce. The presence of platinum joined with the gold of those localities leads Prof. Stewart to think that a body of the mineral might be found there if looked for. No platinum has yet been found in Nevada.

Catching the Bonito.

At the north point at the mouth of the bay (St. Vincent, Cape Verde Islands) was a regular fishing station, where two young Africans were fishing, and where the whole rock was reeking of dead and decaying fish, and a small cave was full of debris, having evidently been made use of by fishermen for many years. The two young negroes at first occupied themselves in catching small fish with a short bamboo rod, baiting with pounded fish, and catching various little rock fish and a scarus. They then began pounding and breaking up the small fish and throwing the largest pieces into the verge of the surf off the point to attract large fish. They watched until they saw a large fish taking these baits on the top of the water, and then they threw a bait on a hook attached to a long cod line. They thus caught a large cavalli (*Cavalla*) of the mackerel tribe, which they had to play for some time and finish with a spear. Large garfish (*Belone*) sometimes came within reach and were easily caught, being very ravenous. One fish, a kind of bonito or tunny (*Thynnus argentevitellus*), of about 25 lb. in weight, was attracted by the baits, and coming close in, swam backward and forward in front of the stand on the rock, taking every bait thrown on to the top of the water. The negroes kept feeding the fish for some time to give it confidence. A very strong piece of cord, with a hook like a salmon gaff made fast to it, was then baited with a small bit of fish, just enough to cover the point of the hook, and a stout bamboo was used as a rod. The cord was hitched tight round one end of it, with about a foot of it left dangling with the hook. One negro held the rod and the other the cord. The bait was held just touching the surface of the water. The fish swam up directly and took it. The negro holding the bamboo struck sharply and drove the big hook right through the fish's upper jaw, and both men caught hold of the line and pulled the fish straight out on to the rock. The negroes evidently felt quite certain of their fish directly they saw it swimming backward and forward in front of the rock. I was astonished that so large a fish could be caught in so absurd a manner. The negro holding the pole was not six feet from the fish when it took the bait.—*H. N. Moseley.*

RECENT DECISIONS RELATING TO PATENTS, TRADE MARKS, ETC.

By the U. S. Circuit Court.—Southern District of New York.

STOVE TRADE MARK.—FILLEE vs. CHILD.

The plaintiff having acquiesced for a long time in the manufacture and sale by defendant of cooking stoves containing certain improvements patented by plaintiff, and to which the name "Charter Oak" had been applied as a trade mark, and the patent having expired, defendant cannot be prevented from calling such stoves by the name of "Charter Oak," so long as he does not represent them as being made by the plaintiff, or induce others to believe that they are made by the plaintiff.