

ELECTRIC FOG SIGNALLING. An English Locomotive Attachment

Which Can Hardly Go Wrong. On the Tottenham and Forest Gate Railway, near the Hoe street station of the Great Eastern Railway, there is one of Timmis and Abernethy's "patent visual and audible permanent recording fog-signalling" apparatus. By the aid of this apparatus, each time a locomotive passes a signal, that signal is repeated on the engine, an indicator pointing to "line clear," or to "danger," and one of two bells being rung. At the same instance an index in the cabin gives a corresponding signal, so that the signalman not only knows that a locomotive has passed a particular signal, but he also knows that the driver has been correctly informed of its position. The two instruments. viz., that in the cabin and that on the locomotive, are in series, so must give the same indications. The same wire also serves to work an electric re-peater in the cabin, to show at all times the position of the signal. The apparatus is quite simple. On the signal post is a reversing switch, which puts the zinc or copper pole of a local battery to the line, according to the position of the signal. This line divides at the cabin one part passes through the repeater in the cabin and thence to earth; another part goes through the tell-tale instrument to an insulated contact several feet in length, arranged in the 4foot way near the signal. Each locomotive carries a large brush, which sweeps over the contact, the brush being connected through an indicator to the body of the locomotive, which is "earth." Thus when the locomotive passes over the contact a circuit is completed from the signal-post, through the tell-tale in the cabin, through the contact to the locomotive indicator, thence to earth. The indicator on the locomotive rings the bell by means of a relay and local battery.—English Engineering.

A Cholera Germ Killer.

According to the American Architect, two chemists of Hamburg, MM. Forster and Nijland, have published some studies on the cholera infection, from which it appears that soap is one of the best-known sterilizers of water suspected of infection. For a long time after the cholera epidemic of last summer, the people of Hamburg were afraid even to bathe themselves with Elbe water, but MM. Forster and Nijland show that ordinary toilet soap, added at the rate of an ounce to about twelve quarts of water, will kill the cholera bacilli in ten minutes. This would be a large proportion of soap to use in a bath, but as most people, instead of dissolving soap in the bath water, apply it to the skin with a sponge, it is probable that the water actually brought in contact with the skin is generally soapy enough to be harmless.

If, however, it is desired to obtain geater security, a soap containing a small quantity of corrosive sublimate may be used. Many "complexion washes" contain this drug, which is said to have a beneficial effect on the skin, however dangerous it may be internally, so that no hesitation need be felt in employing soaps medicated with it, and a very small quantity is sufficient. With a soap containing one per cent. of corrosive sublimate, added at the rate of a quarter of an ounce of soap to sixty quarts of water, all the cholera bacilli will be killed in one minute, and half the dose will kill them all in ten minutes; while the sublimate alone is still more active, an ounce being sufficient to destroy, in five minutes, all the cholera microbes in about a million quarts of water.

Graphite as a Lubricant. Graphite as a lubricant has been slowly coming to the front for a good many years, says the American Machinist. It appears to have not only the quality of making surfaces slip easily by and over one another, but appears to fill up holes, as it were, making a rather solid surface when no surface exists. When a mechanic desires to judge of the quality of a lubricant there seems to be nothing so natural as to Iubricate the ball of the thumb and the forefinger and then rub them together. This may not be scientific, but he gets very good results from his conclusions, and is never likely to give up the practice.

One reason for this is probably in the fact that a great deal of the unclassified education of a mechanic has to do with the thumb and forefinger. He transfers sizes and does a thousand things from their sense of touch. Now, if you take a pinch of graphite between these members you will very readily see how easily they slip one over the other, even inder considerable pressure, and that to e mechanic means absence of friction. ad this has a good deal to do with the wing favor with which graphite is ceived as a lubricant.

Wax for Leather Stuffing.

The use of paraffine wax as a substitute for tallow, oleostearine and other heavy greases in the manufacture of leather is on the increase, and has much to recommend it over the older stuffing materials formerly employed by the eather finisher. One of its principal dvantages is the fact that it renders e leather waterproof in a way which animal fat does not, and at the same ne does not impair the supple and asy finish which the boot and harness ifacturer desires. On the ground st, it compares favorably with oleoine, and the Scottish scale manurers have found that it is to their st to push their trade in this dion, seeing that it is an entirely new t for their wax. -Iron and Indus-

Wooden Chimneys Preferred.

ing wooden chimneys because they nger than metal sounds rather but a number of Maine railoundhouse smokejacks are rehe sheet iron funnel with flarom suspended over every engine dhouse. The smoke corrodes es the metal, say the railroad wood, sprinkled with sand, is the smoke preserves it. -Inournal.

The Strongest Wood. ongest timber known is the or Borneo ironwood, whose rain is 1.52 times greater of English oak. By long ex-pecomes of ebony blackness ely hard. CURIOUS FACTS.

Great Gathering of Paragraphic in formation.

The spinning wheel was invented in India before the most ancient historical

Australia has more churches in proportion to the population than any other country. Artificial ice was first manufactured

by the use of chemical mixtures in the year 1783. The Egyptians, 2,000 years before Christ, had hoes made of bone, with

wooden handles. Bones of a mastoden have been unearthed at a depth of forty feet on a plan-

tation in Texas. The same kind of plows are used in Ceylon to day that were employed there 2,000 years ago.

Spoons of wood, horn metal or stone have been made in every country from prehistoric ages.

The primitive drum was a section of a hollow tree with piece of skin tightly tied over the top. The first agricultural implement, the ancestor of both the spade and the pick,

was a pointed stick, By the old system of chronology in vogue in China the year 1894 is marked

as the year 7,910,343. The Greeks had two kinds of hoe; one broad, like our own, the other having two tines or points. Columella says that Roman peasants

levelled their ground with rollers made of the trunk of a tree. An underground railroad up the Jungfrau mountain is one of the late projects of Swiss engineers.

The Chinese claim that their best musical instrument, the king, was invented 2,000 years before Christ.

The spade used by the Roman peasant during the empire was a wooden instrument tipped with iron.

The latest census of Europe shows the population to consist of 170,818,561 males and 174,914,119 females. The antecedents of the artistic rattle

used in our orchestras was a gourd with half a dozen pebbles in it. An amount of blood equal to all that is contained in the body passes through

the heart once every three minutes. At Saltsburg, Austria, a man was LORD BYRON IN ALBANIAN COSTUME (1810) kept prisoner for fifteen years, during which he never saw a human face.

Photographers claim that they can take a picture of a rifle ball traveling at a speed of 3,000 feet per second. Sculptors contend that the hight of the Venus de Medici, five feet five inches,

is the perfect stature for worsen. The average cost of building a British ironclad is \$240 per ton; the French, \$275; Italian, \$285; German, \$300.

Punch is the Hindu word for five, because five ingredients-arrack, sugar, tea, lemons, and water-enter into its composition.

The Red Sea is so called because it is litterally covered with minute red animalculae; the water itself is of a clear, On some parts of the coast of France,

wind is east, the mist that appears, it is said, bears with it a noticeable perfume. Inmates of English prisons, are employed in picking oakum, making coal

bags for the general postoffice. There are several factories in India, and one, at least, in Europe, that at

Mannheim, Germany, where butter is made from cocoanuts. An English firm is using the silk of

the wild silk worm from which is woven a soft, substantial fabric of light tusson or pongee shade.

The Abuses of Vivisection.

Authoritative comments leave no room for doubt that the atrocious vivisection sometimes practised or suggested by pseudo-scientists is as abhorrent to physicians as to laymen. On the other hand, the utility of legitimate vivisections in promoting the welfare of the human race and the races of domesticated animals has been abundantly demonstrated, most tangibly of all, perhaps, during the past decade, in reference to brain surgery and to bacterial diseases. This being freely conceded by practically all qualified observers, it would seem that the main problem of vivisection (so long a "vexed question") is in a fair way to be worked out to the mutual satisfaction of vivisectors and their aforetime critics. But there is a subordinate phase of the subject somewhat recently pre sented, which one cannot regard with so much satisfaction, namely, the growing practice of vivisecting before classes of young pupils in the secular schools. Such an over-zealous application of the "scientific method" is fit to appear only in that sorry system of pedagogics which makes light of sentiment and considers the goal of education to be the acquisition of bare facts. In a broader view it must appear that such grewsome exhibitions will have a most unwholesome effect upon the mind of a child, tending to strengthen rather than to repress its selfish and cruel instincts. The child who has been taught through "scientific" demonstrations to regard a pet cat or dog as an animated machine with contracting muscles and blood-propelling heart and bile-secreting liver, instead of a living being possessed of feelings and emotions somewhat akin to its own, can never again regard the sacred mystery of life in quite the same light as before. It has gained knowledge of very doubtful value at the expense of a distinct ethical sacrifice. Far better might that child remain ignorant of the appearances of vital organs than lose its awe for the vital principle that animates them. If physiological experiments must enter into the scheme of the modern system of education, let them at least be deferred until moral principles are firmly grounded.

Edison's Latest.

Edison is now at work on a plan to grease the sides of ships so that they will slip through the water more readily. He says the friction of salt water and its constituents are much more than is generally believed, and if he can only do what he is trying to do the Campania can make the voyage between New York and Liverpool in four

New Warships. The British Government is to add

eight new battleships to the present naval force, at a cost of \$33,000,000. When Needles Were Nade. Needles were first made in 1545, when

ten was a good day's work. The Fly's Wings. It is believed the fly can make 660 strokes a second with its wings.

NEW CRAZE FOR BYRON

INTEREST IN A GREAT ENGLISH POET HAS BEEN REVIVED.

Misunderstood During His Lifetime and Denied Sepulture at Westminster-His

Many Portraits and Their History-Thorwaldsen's Bust His Best Portrait.

There is tendency to a return to Lord Byron. It is no longer considered improper for young women to say in society that they have read Lord Byron and that they like the reading. In England, which has only itself to blame for the keen cuts which the hardy scion of Newstead gave it, there is a revival of him who wrote as no man before him wrote; as none since has

John Cordy Jeaffreson, in his impartial book, "The Real Lord Byron," opens his pages with this sentence: "In great things and small things it was Byron's lot to be misunderstood during his life and misrepresented after his death." And a few lines below is the melancholy statement: 'The people on the evening of his withdrawal from England frowned at him in London drawing-rooms or murmured against him in the London streets."

He died in Greece in 1824 and the prejudice against him in England was still so



FROM THE PAINTING BY PHILLIPS. unrelenting that his remains were denied sepulture in Westminster. But the hand that was laid upon him and his memory is releasing its clutch. It is now proper to go on a Byronic tour in the art galleries of England. There is quite a rage for sketches, silhouettes, paintings and statuary of the man who left "his native shore" and proved himself not only the master genius of poetry, but a man of courage and common sense as well, and died engaged in an effort to liberate another country.

In the last number of the Magazine of Art-London-one finds a collection of pictures of Byron and an interesting account of each. The frontispiece of the magazine contains an etching-a very charming thing it is, too-of the Harrow view, the Byron estate, which on a clear day, it is claimed, is the most picturesque landscape in England, the vision taking in a range of fifty miles. The etching is from a picture in the art museum, London, and represents the young poet reclining on a tomb, writing the "lines written under an elm while visiting Harrow."

But the pictures of the past, gathered from far and near, show what interest there is in the name, and one detects in the letter press a disposition to bury the past and render an homage so long overdue.

The first miniature known of Byron was painted by Kay, of Edinburgh, in 1795. It represents the poet at the age of seven. This Byron gave to a young woman who was in his mother's service. At her death it passed into the possession of Dr. Ewing, of Aberdeen.

There is a water color of him in the gown worn by noblemen at Trinity College, where he was a student after he left Har-

The portrait of 1807 was painted by G. Sanders. It is full length and in oils. It was of this picture that Byron wrote to Rogers:

If you think the picture worth your acceptance it is yours, and you may put a glove or a mask on it if you like. A mindature copy was made of it, which so displeased Byron that he ordered it de-

The portrait of him in Albanian costume was painted soon after Byron's arrival in Turkey. The Albanian costume produced a favorable impression on his imagination. He sat for this portrait in 1810 to T. Phillips. It formerly belonged to Lady Milbanke, and is now in possession of Lord Leigh, of Stoneleigh Abbey. There are several copies of it extant.

There is a pen and ink sketch, which the Magazine of Art does not give, by Lady Caroline Lamb. She had loved him. She afterward saw Byron and his wife walking arm in arm, and it so embittered her that she made the caricature.

The best, and the historical portrait of Byron, is from the bust of Thorwaldsen, It was this work which excited the admiration of the Countess Guiccioli. Many casts were made from this, and some are in this country. A repetition of the head of the bust was made by the same artist in 1817. It was tendered to Westminster Abbey, St. Paul's Cathedral and the British Museum, and declined in turn by each. It remained for several years, unpacked, in the vaults of the custom house. It now stands in the college library of Trinity, Cambridge.

How to Make Herb Tea. Herb teas are made by infusing the dried or green leawes and stalks in boiling water and letting them stand until cold. Sweeten to taste.

Catnip tea is the best panacea for infant ills, in the way of colds and colic, known to nurses.

Chamomile and gentian teas are excellent tonics taken either hot or cold. The tea made from blackberry-root is said to be good for summer disorders. That from green strawberry leaves is an admirable and soothing wash for a cankered mouth. Mint tea made from the green leaves, crushed in cold or hot water and sweetened, is palatable and healing to the stomach and bowels. A tea of damask rose leaves, dry or fresh, will usually subdue any simple case of summer complaint in infants.

Anarchy in France.

France's record has been appaling. The mere catalogue makes a horrible recapitulation-Ravachol's bomb; Emile Henry's explosion in the Terminus Cafe in revenge for Vallant; the Madeleine Church Lenten horror, when Pauwels killed himself with his own petard; the arrests of Elisse Reclus, the famous geographer, Paul Bernard, the ex-Jesuit, and Sebastian Faure; the Grenobie Church explosion, and the bomb-throwing at Lyons, Bordeaux and Boulogne. Carnot's assassination has come as the grand elimax to this reign of tenes.

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and has remained contented and well. Mr. Andrew P. Stirret, the popular chemist, corner Dundas St. and Brock Ave., Toron-

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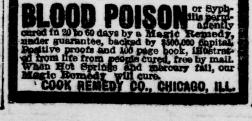


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