French Academy Prizes.

In mechanics the extraordinary prize of \$1,200, offered by the French Academy of Sciences, has been awarded in part to M. Taurine for his "Study of Marine Engines," in part to M. Germain for his "Treatise on Hydrography," and in part to M. A. De Magnac for his work on "New Astronomical Navigation." M. Taurine's book contains the results of numerous briginal experiments bearing upon the art of shipbuilding, M. De Magnac's new method of navigation is that suggestied by Sumner, and practically tried by Sir W. Thom/son several years ago. It depends on the fact that a knowledge of the hour of the first meridian at the moment whien the altitude of a star is observed, enables the mariner to describe a terrestrial circle, on which the ship must necessarily be. By observing two different stars simultaneously, or very soon after each other, two circles are obtained, which at their intersection mark the position of the ship. This method has been adopted in the French navy.

The Montyon prize has been awarded to M. Leon Francq, civil engineer, for perfecting a fireless locomotive of the kind invented by Mr. Lamm, of New Orleans. The Fourneyron prize has been awarded to M. Marcel Deprez for his well known experiments on the electric transmission of power. The Lacaze prize has been bestowed on M. Henri Becquerel, the eminent physicist, for his researches on the magnetic rotation of solids in liquids and gases, and other valuable discoveries. The Lacaze (chemical) prize has been awarded to M. Cailletet for his researches on the liquefaction of gases. In aerial locomotion the Academy has awarded the Penaud prize in equal parts to M. Gaston Tissandier, M. Duroy de Bruignac, and M. V. Tatin. M. Tissandier's experiments on the application of electricity to ballooning are well known; M. De Bruignac has invented a compound aeroplane combining a small balloon with sheltering surfaces; and M. Tatin has modeled the helix used by Tissandier, besides constructing artificial birds which fly by actual strokes of the wing.

New Febrifuge-Kairin.

The reports of the remarkable antipyretic effect of kairin continue to augment. Most observers seem to agree that it is best to begin in adults with a dose of about 12¹/₆ grains. to repeat this two hours later, then to administer 9 grains every two to three hours, until the desired effect-decrease of temperature-has been obtained, when a smaller dose, about 5 grains, employed everthree hours, usually suffices to keep down the temperature. But at the least indication of the temperature falling below normal, the remedy must either be omitted or given in small doses and at very long intervals, say 3 grains every twelve hours. Should, how ever, the temperature nevertheless again ascend, the same course as described must be gone through anew.

4.0.2. Tamarinds.

There are but few people to whom the flavor of preserved tamarinds is not agreeable, but do those who frequently use tamarinds know how they are prepared? They come into commerce both from the East and West Indies; the latter,

which the shell or epicarp has been removed, and the pulp, together with the strong fibrous framework upon which it is built, and theseeds are placed in alternate layers with powdered sugar in a cask or jar, over which boiling sirup is afterward poured. In the East Indies it seems they are prepared by first removing the epicarp and seeds by hand, after which the pulpy portion is usually mixed with about 10 per cent of salt, and trodden into a mass with the naked feet. Of these tamarinds several qualities are known in the market, the best being free of fiber and husk, and the worst containing both, together with the hard, stone-like seeds, which are commonly eaten in the East Indies after being roasted and soaked to remove the outer skin, and then

PORTABLE ELECTRIC TESTING APPARATUS.

Electric light engineers often have occasion to ascertain the resistances of the machines and circuits with which they have to deal, under conditions which make it inconvenient to have at hand the comparatively cumbrous apparatus which is usually provided for the purpose. The instrument of which we this week give an illustration has been designed with a view to portability, and to enable it to be used without much time being lost in setting it up. It is made by Messrs. Latimer Clark, Muirhead & Co., and although the last and improved pattern is somewhat larger than that originally introduced, it is still of so small a size that electricians can easily carry it with them. The range and sensitiveness of the instrument are amply sufficient, and it is further capable of forming a useful adjunct to more delicate apparatus in the laboratory, seeing that it is always set up head or by an external magnet.



DIAGRAM OF CONNECTIONS.

ready for instant use, and that measurements can be made with great rapidity. To combine in such small compass so many different parts in a practical form, and to insure correctreading with the minimum of skill on the part of the operator, necessarily required some little evolution, yet the result has been obtained by taking advantage of known methods without embodying any new principle.

Chloride of silver elements, wrapped in blotting paper moistened with a solution of zinc chloride, supply the current. The galvanometer needle is astatic, suspended from a torsion head by a silk fiber, and can be set to zero without it being necessary to adjust the position of the instrument relatively to the magnetic meridian.

A single plug, which, when not in use, is placed in the cover as shown; serves to vary the comparison coils from 0.1 to 100 ohms. A battery and a galvanometer key prevent the extra current due to induction disturbing the balance.

The arrangement of branch coils, while, as in the ordinary "meter" bridge, permitting of continuous variation in values being read, provides a length of wire the resistance of which bears a due proportion to the other resistances in circuit. The principle is derived from Messrs. Thomson and Varley's well-known slide resistance box. Eleven coils, with contact pieces, are arranged in series in the base beneath the turntable, this latter carrying two contacts, which it would seem, are simply the fruits, or, rather, pods from serve to embrace two of these coils; a wire having double the telephone wires in that city have found a formidable

flection of the needle, a final adjustment being obtained by moving the index arm. The number pointed to by the arrow is then read off as hundreds, that indicated on the table itself as tens and units. The instrument, as we ourselves have observed, gives fairly correct readings from 0.005 to 2,000 ohms, but will give approximate readings of a much higher value.

Two terminals (shown close together in the perspective view and diagram) are also provided for the insertion of extra battery power should it be desired to take insulation tests with a higher E. M. E. It would also be possible to measure the sectional resistance of cells by Mance's method, by taking out the ordinary cells, bridging over the two battery terminals, connecting the cell to be measured at X and B, and adjusting the galvanometer either by the torsion

Lastly, the instrument can be used as a simple detecter by joining up to B and C, and using the left hand key .-Electrical Review.

Curious Case of Cause and Effect.

During a storm at Greenville, R. I., May 9, the lightning ran by the telephone wire to the Windsor Mill, where there is no telephone, but the wire is disconnected just outside the building. The lightning was led by the wire to the comer of the mule and weaving rooms, and entered the building under the jet. It followed the water pipe and set the sprink. lers going, and at the same time fired the stock in the mules. By this singular provision of an active extinguishing agent at the moment the fire started, serious loss was prevented, as the fire was soon drowned out. Many of the spindles in the mules lost their temper, and some of the belts were burned, but the mill was saved.

Eggs by Weight, Count, and Measure.

There is a great deal of difference in the size of eggs, and therefore a difference in the nutritive value per dozen when used for domestic purposes.

From time to time the newspapers take the subject up, and argue the propriety of selling eggs by weight, instead of by the dozen, as is the custom in the Eastern and Middle States. But in California, we believe, not only eggs, but fruit and many kinds of vegetables, that are sold in New York and other Eastern cities by the dozen and measure, are sold in San Francisco by weight only, and we cannot help but think that the latter is the most equitable mode of dealing to both the seller and purchaser.

In the great market, the "Halles Centrales," Paris, France, the egg dealers do things still differently. The eggs are assorted, according to their size, by passing them through rings, which, like all other measures, have to be stamped. These rings have a diameter of 38 and 40 millimeters, and eggs which do not go through the larger ring are first quality; those which go through the first but not through the second are second, and all others which go through the second are third quality.

The Aasgeier and the Telephone.

According to the Brazilian Germania of Rio de Janeiro,



enemy in the "aasgeler," a large bird of the vulture species-a kind of John Crow-which flying very low, as it passes over the tops of the houses in scavengering the streets, hits the wires and breaks them or else becomes entangled. Good wire is very expensive in Brazil. In consequence of the damage done by these birds, the telephone people are compelled to keep up a large force of men for repairs. No sooner are the wires mended in one part of the city than report comes of interruption in another part,

owing to the operations of the aasgeier. It is against the law to kill these birds, and as a result they increase very rapidly in number. The Provinzia, too, says that nothing positively remedial can be done at present. The telephonists must wait until the bird learns by experience that it will

PORTABLE ELECTRIC TESTING APPARATUS.

Pharmacopecia; while on the Continent those from the East Indies are alone employed. Besides the tamarinds sent to Europe they are also shipped in large quantities from Bombay to Persia and other northern countries.-Gardeners' Chronicle.

boiled or fried, when they are said to be tolerably palatable. | the resistance of a single coil is stretched round the edge of | enjoy more personal comfort by flying higher. It would be West Indian tamarinds are alone officinal in the British the table and joins the two contacts, being for final adjust- interesting to know whether anything similar to this has ment capable of subdivision at any point by the index arm been noticed in other tropical or subtropical towns in which carries the battery current. When used for taking re which telephone wires have been strung. The advocates sistances, the connections are made to the two terminals of underground systems may feel disposed to look on these marked X and B. The table is then set with the arrow John Crows as very sensible birds, engaged in making a pointing to such a number as on trial gives the smallest de- laudable protest against aerial electric wires,