Correspondents are requested, when applying to the Editor for the names and addresses of the persons from whom further particulars respecting the articles in THE GATHERER may be obtained, to forward a stamped and addressed envelope for reply, and in the case of inventors submitting specimens for notice, to prepay the carriage. The Editor cannot in any case guarantee absolute certainty of information, nor can he pledge himself to notice every article or work submitted.

An Adjustable Picture Hanger.

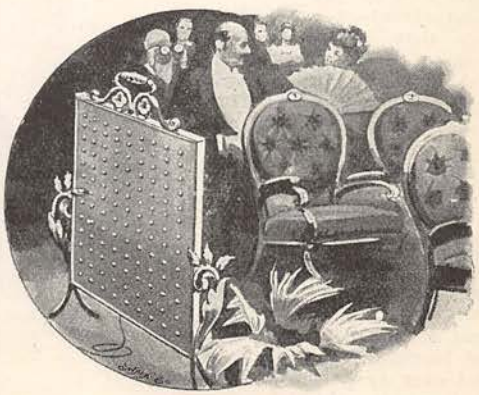
The wire used in hanging pictures is apt to give way in course of time, hence the durable and safe hanger which we illustrate will recommend itself to many. The hanger is made of brass in eleven sizes from 6 to 36 inches in length, and still longer ones can be made by means of a union joint. More than one picture can be hung on the same rod by sliding hooks like that shown at S in the figure. Two hangers are preferable for each picture, unless it is very small, as they divide the weight. The hanger is adjustable to any length, and can be brought to a level by a turn of the screw while in its place.

Colour Music.

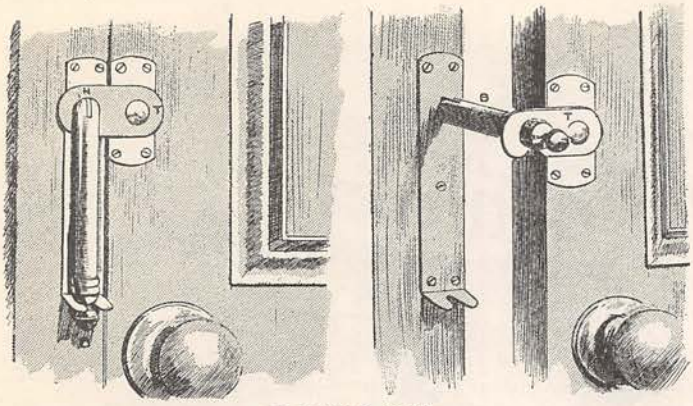
Some years ago Professors Ayrton and Perry, the well-known physicists, on their return from Japan, read a paper before the Physical Society of London, in which they proposed the introduction of a new art into civilised Europe. This consisted in throwing coloured lights on screens or even on the clouds, and compounding or harmonising the colours in an artistic manner, so as to excite an emotion of pleasure similar to that which we derive from hearing fine music. They had borrowed the idea from the Japanese, amongst whom this visual art is practised; but they conceived that it might be further developed in the West with its scientific resources. The idea fell on unresponsive ears at the time, but the electrical fountains of Sir Francis Bolton, in which coloured lights were projected on the rising and falling spray were virtually a realisation of it. Quite recently Mr. A. Wallace Rimington has brought out another illustration of the art. It has long been known that a certain analogy exists between the spectrum of light and the octave of sound, and that both are based on rates of vibration—light of the ether, and sound of the air. Mr. Rimington's plan is to throw harmonious beams of coloured light on a screen by playing a keyboard, and thus produce what he calls "colour music."

An Electric Radiator.

Electric heating has begun to take the place of hot-water pipes in buildings supplied with the electric light. Our illustration shows an "electric radiator" of the kind adopted in a public auditorium in London. The heat is generated by the



AN ELECTRIC RADIATOR.



VENTILATING BOLTS.

FIG. 1. FIG. 2.

electric current passing through wires offering a high resistance to its passage, and thus transforming its energy into heat. These wires are behind the radiating surfaces which are seen in the figure. The current is led to them by the flexible conductors seen below. It can be controlled at will by switches, and the temperature at once raised or lowered, without danger of fire.

Ventilating Bolts.

Our illustrations represent new fasteners for doors and windows which permit of ventilation with security. In Figs. 1 and 2 the door is fastened, when shut, by turning the latch, T, over the hinged end, H, of the bolt, B, and when partly open, by catching the milled end of the bolt. In Figs. 3 and 4 a similar hinged bolt is shown locking the two sashes of a window, and also permitting them to remain open a few inches in order to admit the air.

The Bamboo Cycle.

In the "Bamboo Cycle" the frame is made not of steel, but of bamboo, which, as a wood, combines lightness with strength; but there is no special improvement in the mechanism or wheels. The general substitution of aluminium for iron in the framework of cycles would no doubt be an advantage. We may add here that leather has been adopted in preference to india-rubber for the tyres of army cycles in Germany, as the leather can be more easily repaired when ruptured on the road.

Inoculating for Cholera.

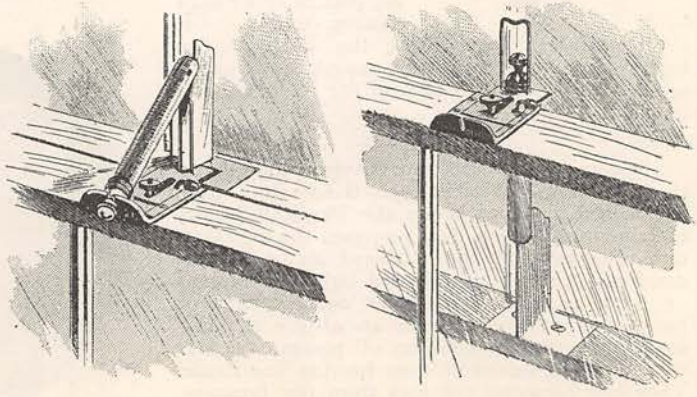
Dr. Haffkine has tried the effect of vaccinating over 32,000 persons for cholera in India, more especially in Calcutta, and finds that whereas over 15 per cent. of the population who were not inoculated took the disease, and over 11 per cent. of these died from it, only 1·18 per cent. of the immunised persons were taken ill and died. The process of inoculation is, it may be added, quite harmless.

Oysters as a Tonic.

MM. Chatin and Müntz, two French chemists, have communicated a memoir to the Academy of Sciences, Paris, on their discovery that oysters contain a notable quantity of phosphorus in their flesh as well as in their shells. The phosphorus is there in a form readily assimilated by man, and as oysters also contain iron and nitrogen, they are virtually a tonic food. No doubt hygienists will make use of this discovery. Persons suffering from brain exhaustion or anæmia might do well to try the remedy. Portuguese "natives" contain more phosphorus than French, but it has not yet been ascertained whether they are also superior to British oysters in this respect.

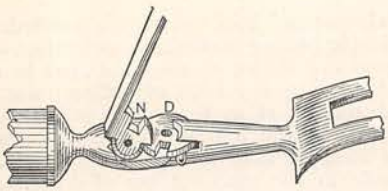
New Drugs.

"Baylahuen," the leaves and stems of the *Haplopappus Baylahuen*, a species of aster which grows in Chili, has been introduced into England as a stimulant for weak digestions. The plant is remarkable for having a kind of natural varnish, highly odorous and viscid, on its stem, which turns a beautiful red in a solution of alkannin in proof spirit. The plant is also applied externally to heal the wounds of animals, just as the Grindelia, which is related to it, is used in California for the same purpose. The "kinkelibah" (*Combretum glutinorum*), a bush about ten feet high, which grows in tropical Africa, is also attracting much attention in medical circles as the only good remedy for the hematuric bilious fever which is so fatal to Europeans in Western Africa. An infusion of the leaves is made (one weight of leaves to sixty weights of water), and a dose of 250 grammes is



VENTILATING BOLTS.

FIG. 3. FIG. 4.



A NEW GUARD FOR CARVING-FORKS.

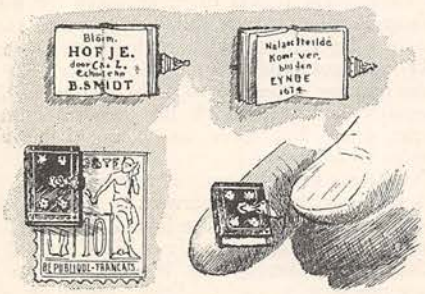
administered every ten minutes. The tea is also drunk as a preventative of this deadly fever, especially during the rainy season.

A New Guard for Carving Forks.

The woodcut shows a guard for a carving fork, which is not liable to fall down, but is fixed or locked in its position. This is effected by a locking disc (D), which is turned round until the slot in it allows the guard to be raised; then, by turning the disc yet more, the rim of it enters the slot or niche (N) in the base of the guard, and fastens it, so that it can neither go further back nor drop down.

The Smallest Book.

Quite a library could be formed of the lilliputian books which have appeared from time to time. They are admirable specimens of the printer's art, and treat of many subjects, grave or gay. Amongst the smallest known are some French devotional works, German almanacs, and Irish albums. The French "Chemin de la Croix" and "Livre de Prières" has a print only 13 by 6 millimetres (about $\frac{1}{2}$ in. by $\frac{1}{4}$ in.) in size. The "Blöem Hofje" ("Court of Flowers"), which we illustrate in facsimile, is believed, however, to be the tiniest book in existence. The print is only 10 by 6 millimetres (nearly $\frac{2}{5}$ in. by $\frac{1}{4}$ in.), and the entire page with margins is only 17 by 8 millimetres (about $\frac{7}{10}$ in. by $\frac{3}{10}$ in.) in dimensions. It contains 49 pages, and was produced in Holland in 1674. The author's



THE SMALLEST BOOK.

name is Carl Van Lange, and the publisher's B. Schmidt. It is elegantly bound in calf, gilt, and furnished with a clasp in gold filigree. A comparative idea of its size will be got from the figure which shows it lying on a French postage stamp. The book is now in the possession of M. Georges Salomon, a foreign collector.

A Portable Anemometer.

The device which we illustrate is intended for measuring the speed of air currents, especially in mines, ventilators, flues, and so on. It is virtually a portable anemometer, the wind turning the small mill at the side, and working the counters which tell the velocity on the dial.

Dyed Photographs.

MM. Lumière, the well-known Parisian photographers, have brought out a process of colouring —or, rather, dyeing—transparent gelatine photographs with the tints of Nature which has some title to novelty. Following Mr. Ives, of Philadelphia, and others, the Frenchmen take three several views of the object by means of its blue, red, and yellow rays, all on the same plate. Each view,

A PORTABLE ANEMOMETER.

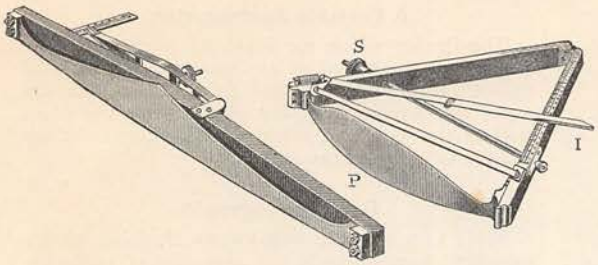
after being taken, is separately treated with a solution of aniline of a colour corresponding to the rays with which it was taken—blue, red, or yellow. The aniline fixes itself in the parts of the plate affected by the light. When held against the light, or placed upon white paper, these colours are blended to the eye, and reproduce the natural tints of the object.

Diamond Wells.

On the coast of Sweden there are granite islands bearing lighthouses, which were ill-supplied with water, as there were no natural wells in the ground. Thanks to the diamond drill, however, water has been found in most cases at a depth of 100 feet, and there is no fear of drought in future. The idea of boring the granite in this way was suggested by Herr Nordenskjold, and may be useful in other countries where the crystalline rocks abound and water is lacking at the surface.

A New Race in Egypt.

Professor Flinders Petrie, the well-known Egyptologist, has discovered the remains of a new race in Egypt, who appear to have flourished there in ancient times. The figures which represent them on the monuments of the country show them to have been a tall blonde race with high noses, and of a type similar to the blonde or rufous race of Palestine and the Atlas range. He traces the type



THE CIRCLOGRAPH.

along the north of Africa to Egypt, but it is not quite clear whether they originally crossed from Europe by the Straits of Gibraltar or the Hellespont. While upon this subject we may mention that at a recent meeting of the Victoria Institute a paper on the Guanches of the Canary Islands was read in which the author sought to identify this race with the aboriginal inhabitants of Eastern America.

The Circlograph.

This ingenious little instrument of Mr. Thomas Clarkson, C.E., will be very useful to draughtsmen of all kinds, as it enables them to draw curves of different radii by a simple adjustment. It is based on the property which a thin steel plate of a particular form has of bending in circular curves. The drawing plate (P) is bent by means of the frame, the curvature being adjusted by a fine screw (S), and the radius is given by a multiplying index (I). The materials of the instrument have been selected to compensate for variations of temperature. The circlograph enables curves to be drawn of every radius from 9 inches to infinity, and saves much time to the draughtsman. It is light and handy, covers less paper than a set square, and folds up into a small space, as shown in the figure. The steel blades are made in lengths of 12, 18, and 24 inches, and may be used as standard measures or as straight edges.

Pictures in Dead Eyes.

The eye has a striking analogy with the photographic camera, and it has been supposed that a picture might be found on the retina of a dead person, which in a case of murder might lead to the identification of the murderer. According to Dr. Ellerslie Wallace, however, this result is not to be expected, because a certain time is required for the picture to make a lasting impression on the retina, and the difficulty of photographing it is great. He mentions an actual experiment in which a man on the scaffold, whose eyes had been kept in darkness, was told to fix them on a certain object before the drop fell; and a microscopical examination of his eyes showed an inverted image of the object in each, but of vague appearance. Perhaps something might be done to photograph such an image with a microphotoscope.

A Slip-cover for Books.

A new book-cover has recently been invented for the protection of books whilst in use. The "Grosvenor" book-cover, as it is called, can be obtained either in oiled silk or leather, and, by means of strong elastic bands, can be readily adjusted to any book of ordinary size. The advantages of such a cover will be quickly seen, and will appeal at once to the student or business man who wishes to read a good book in the train, or out of doors. In appearance the cover is neat and elegant, and it is impervious to rain and grease. Fastened to each cover is a small piece of ribbon to serve as a book-mark, which will also be found useful.

GARDENING IN AUGUST.

MANY people in this month of golden corn and poppies leave their homes for sea-breezes, the farmhouse, or the mountain side. The plants are left to the care of friends or servants, who must be told that two of the most important details of management during this month are to give plenty of water and keep the surface of the leaf free from dust.

Window plants usually have hard, smooth leaves, as those of the palms, aspidistra, aralia, and many other things we have recommended in these notes. Early potatoes may be lifted, and you should earth up celery, first removing offets and small leaves. Plant out coleworts for the winter, and continue to sow lettuces, radishes, mustard and cress, and such like things to replenish the salad bowl, which one delights in on a hot summer day. Grapes are ripening in small houses, and the air must be kept dry. Pick out with the scissors any berries showing the least sign of decay.

Towards the end of the month "geraniums," which are strictly "zonal pelargoniums," may be propagated by cuttings which will strike readily outdoors in light soil. Gather seed of perennial flowers as the larkspurs, but it is better not to encourage seed formation on anything, as it stops the succession of flowers that one so eagerly desires.

Under glass plants often languish for want of moisture. The pots are full of roots, and the soil gets dust-dry very quickly, so that three waterings a day are sometimes none too many. A little liquid manure is helpful to assist plants in bloom, especially fuchsias, which are not so robust as "geraniums," but have as heavy a burden of blossom to bear.

Carnations must be layered without delay. This work is always better performed in July, as then a good season is given for the layers to root in. The time for planting out carnations is the second week in September, therefore it is necessary to commence propagating early. Select the finest shoots for layers, and make a shallow basin round the plant, filling in with fresh soil, prepared by mixing together loam (two parts), leaf mould (one-half part), and silver sand. Take the layer and make a cut with a very sharp knife through one joint. This will form a "tongue." Then peg down into the soil, covering the cut portion with some of the prepared compost. Water carefully, and in September lift the layers for transplanting to the places they are to beautify the following year.