

# The GATHERER

An Illustrated record of Invention Discovery & Science

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## A New Teapot.



In making tea, an infusion and not a decoction is wanted—in other words, the leaves should only remain for three to eight minutes in the boiling water, and then be withdrawn.

With the ordinary teapot they lie at the bottom all the time, and hence, although the first cups of tea may be free from the bitter and injurious principles extracted from the leaves, the later cups are not. The simple device which is shown in our engraving permits the leaves to be removed from the water in the teapot before the bitter tannic principle has been “drawn” from them. It consists of a small perforated vessel or infuser, *z*, which can be raised or lowered into the pot by means of the chain going through the lid. The leaves are put into this cage and lowered to the bottom of the teapot; the boiling water (need we say it must be at boil?) is poured in. After the allotted time of infusion—from three to eight minutes, according to taste—has expired, the infuser is pulled into the lid of the pot with the chain and kept there. Tea made in this way is not spoiled by standing, and if it grows cold may be re-heated.

## Seed Corn and Rooks.

The Howard method of coating seed corn with tar to protect them from rooks does not succeed well in practice, because the tar makes the grains stick together, and hence M. Neuville, Professor of Agriculture at Neubourg, France, has improved it by diluting the tar with an equal quantity by weight of petroleum. The petroleum is mixed with boiling water and the mixture is added to the tar, which is stirred the while. The seed corn is to be well covered with the solution before it is sown.

## Crushed Steel.

Emery powder, which has long been matchless for polishing and sharpening metal, has now a rival in the “crushed steel” which is made by the Pittsburg Steel Company of the United States. This new material is obtained from old steel and tools such as files and chisels by retempering and crushing them. Various qualities are prepared for the

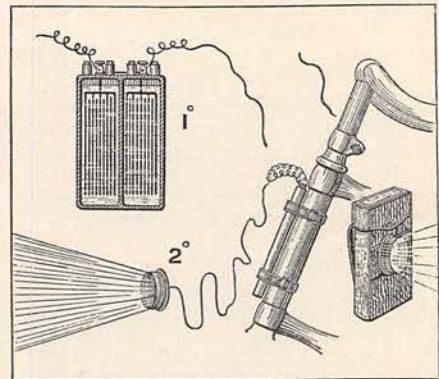
polishing of metal, stone, glass, and so forth; and as the powder does not wear the object to which it is applied so much as emery, while it is equally effective, it is rapidly coming into favour.

## A Hygienic Flour-Bin.

All householders should welcome the introduction of a new hygienic flour-bin, which is the invention of Mr. Percy Young. It is made of galvanised steel, and is so shaped that its inner surface presents no joints or creases in which particles can lodge, and, consequently, the bin calls for very little in the way of cleaning. The smaller sizes are useful not only for flour, but for the storage of other household requisites, such as oatmeal, rice, or sugar; while the larger sizes are very useful as bread-pans. With the bins is sold a patent flour-scoop, which is so planned that it holds exactly a pound of flour when full, and thus does away with the necessity of weighing it out.

## A Bicycle Accumulator.

Our illustration shows a very neat, portable accumulator for feeding the electric lamp of a bicycle. Fig. 1° represents a section through the



heart of the accumulator, which consists of lead plates in diluted sulphuric acid. It weighs about 2½ lbs. and yields a current of 2 amperes for three hours. Fig. 2° shows an electric glow-lamp fed by the accumulator and attached to the bicycle. Annexed is an accumulator of the same kind, with a lamp fixed to it, for use in railway trains.

## An Electro-plated Statue.

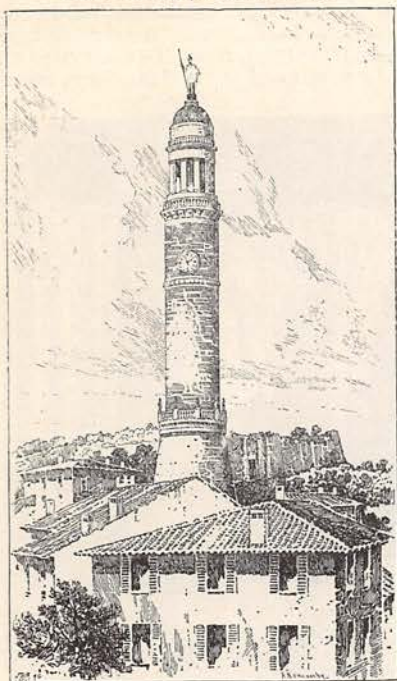


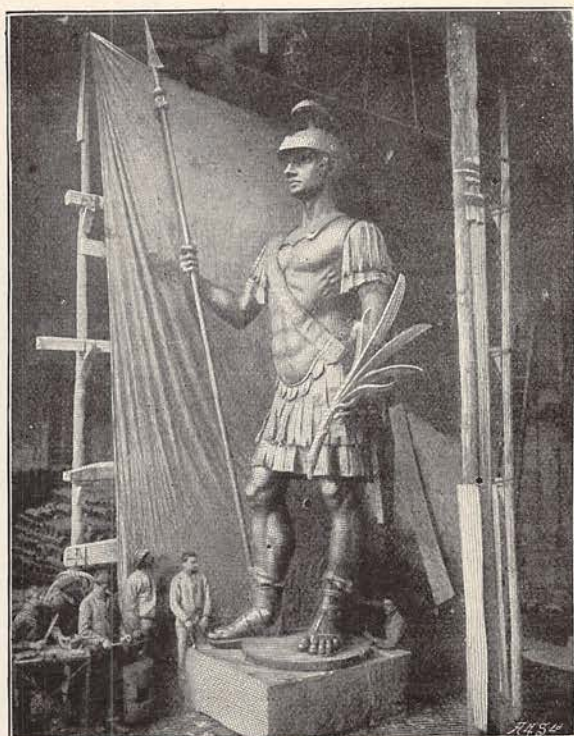
FIG. 1.

A new departure in statuary has been made in Italy. The idea of the process is not new, for it was suggested in 1881 by the present writer, but has never to our knowledge been carried out in practice before. It is to coat plaster of Paris or clay models of statues with metal by electro deposition, and thus render them as durable as bronze castings at a much smaller cost. The example we give is a statue of Saint Fidèle, the Roman soldier, who was one of the first Christian martyrs. It is of colossal size, being 23 feet high, and stands on the summit of the Torre del Popolo, or Tower of the People, at the Palazzolo Sull' Oglio, the ancient Palatiolum of the Romans, situated between Brescia and Bergamo, in Lombardy, a city which for its cotton industry has earned the title of the Brescian Manchester. Fig. 1 is a representation of the tower, and Fig. 2 shows the statue as finished by the sculptors. The model in plaster of Paris was rubbed with plumbago or black lead, and put into a large bath containing a weak solution of sulphate of copper or blue vitrol. A current of electricity was then sent through the bath, and metallic copper deposited on the black-leaded surface in the ordinary way. The operation lasted about twelve days, and the coat of metal was 4 millimetres thick. The current from a dynamo worked by a gas-engine was employed, its strength being 600 ampères and its pressure about 5 volts. The electro-plate is absolutely faithful to the work of the artist and only costs about £300. Moreover,

the entire work is sufficiently light not to endanger the stability of the tower. It is an old remark that we British are not very happy and successful in producing statues, and certainly we have a good deal to learn in that direction; but our climate is a good deal to blame, for it soon destroys marble. Here, then, is a species of statuary which, while preserving the artistic merit of the sculptor in stone, renders the surface of the work capable of withstanding the influence of the weather.

## Andrée's Balloon.

Herr Andrée who, with Herr Strindberg and Eckholm, has departed on his perilous trip to the North Pole, has taken every precaution to ensure success. The balloon, which is called the "Nord-Pole," was made by M. Lachambre, and is a sphere about sixty feet in diameter, made of two-ply and three-ply pongee silk varnished with india-rubber, so as to contain the gas as long as possible. It carries a sail, to act as a rudder, and also a "guide rope" trailing on the ground or water as the case may be. A light canvas boat, which will give the explorers a chance of saving themselves by sea in the event of a mishap, has been taken, and a large number of scientific apparatus for making observations of the atmosphere and ocean, as well as photographic cameras for views of the country. Instructions have been sent out to all the circum-polar countries bidding the natives look out for tidings of the balloon. In connection with this topic, we may add that the Americans are about to make a pleasure trip to the Arctic. The steamer

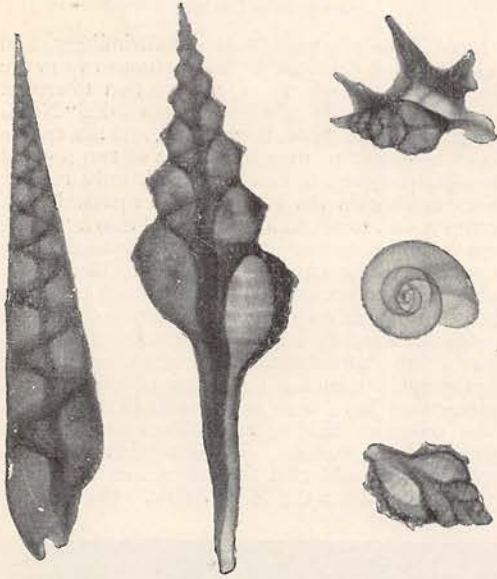


AN ELECTRO-PLATED STATUE.—FIG. 2.

*Blencathra* is to sail for Greenland and Iceland in order to give private travellers a chance of witnessing Arctic scenes without the hazard of a voyage in a whaling-ship or an exploring expedition. The idea is a good one, and we hope to see it taken up in this country before very long.

#### Radiographs of Shells.

A number of pretty radiographs of shells have been taken with the Röntgen rays by M. Albert Londe, of the Société l'Optique, Paris. Our



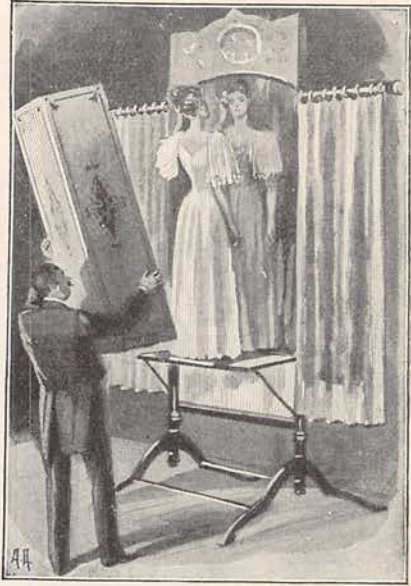
(From a photograph lent by the Société l'Optique, 18, Rue le Peletier, Paris.)

illustration will show the reader how the rays, penetrating the shell, exhibit all its inner convolutions and wards.

#### Weather, Crime, and Disease.

Mr. Alexander B. MacDowall, M.A., F.R.Met. Soc., has made a special study of the weather of the British Islands in its relations to disease, and discovered a variety of interesting facts which cannot fail to be useful to doctors, farmers, invalids, and many others. Climatology is a young science, with a great future before it; and most of the large towns will doubtless follow the example of Rome and Paris in founding meteorological as well as bacteriological observatories for the study of the weather in relation to the health of the inhabitants. The United States Weather Bureau have gone a step further, and instituted a department for studying the relations of weather and crime—that is to say, the influence of the weather on the moral state of the citizen. Meanwhile, an Illinois meteorologist has found that in Chicago crime increases when the temperature—especially in summer—is high, when there is a deficiency of rainfall, and when the wind is south-west. On the other hand, it diminishes when the temperature—especially in winter—is low, when there is abundant rain, and when the wind is north-east. Of course, it does not follow that these results will apply to other parts of the world. We venture to predict, for example, that it will be found in the

London district that north-east winds increase rather than diminish crime. If we mistake not, we have already surmised in *THE GATHERER* that north-east winds and anticyclones were favourable,



THE LADY AND THE LOOKING-GLASS.—FIG. 1.

and that south-west winds were unfavourable to the spread of influenza, and this is precisely what Dr. Lockhart Gillespie, of Edinburgh, has recently found. On the other hand, in cyclonic weather diseases of the respiratory organs are above the average.

#### The Lady and the Looking-Glass.

A clever illusion is now attracting large audiences in New York. The performers bring a large

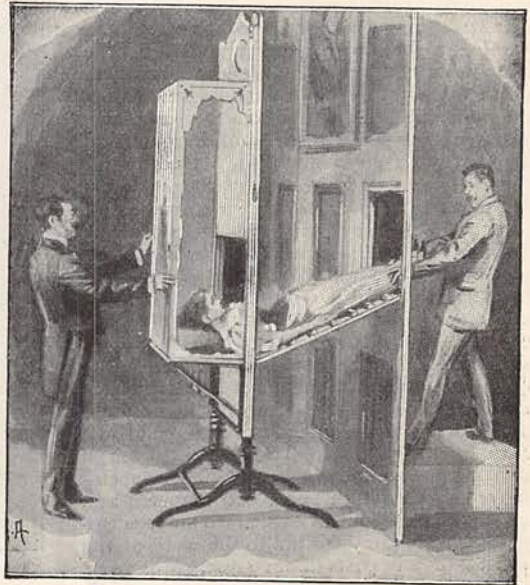


FIG. 2.

pier-glass (Fig. 1) upon the stage, and a lady confederate ascends to the small platform in front of it by means of a ladder. Obeying an hereditary instinct of her sex, she immediately begins to inspect her appearance in the glass, and although her companions turn her about so as to face the audience, she cannot resist the impulse to look at herself, and wheels round again. The two men now lift a box and playfully cover her up by slipping the box over her, as shown. There is a moment of silence, and the men, apparently wondering why she is so quiet, take away the box again, only to find that she has disappeared. Fig. 2 shows how the trick is done. The mirror is really in two pieces, and the cross-bar of the platform conceals the junction. When the lady is hid from view by the box the upper piece is raised behind the wooden top of the mirror, disclosing a square opening or notch cut in the lower piece, through which she passes feet first to a gangway pushed from an open panel in the back scene, as shown. Another confederate assists her to slip away, and the upper part of the mirror is then shot into its original position.



THE TROGLODYTES OF TUNIS.—FIG. 3.

The Troglodytes of Tunis.

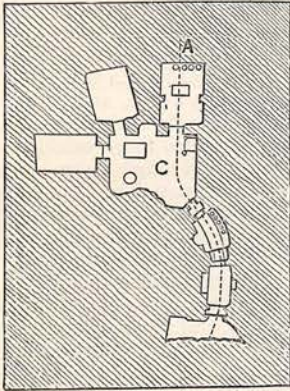


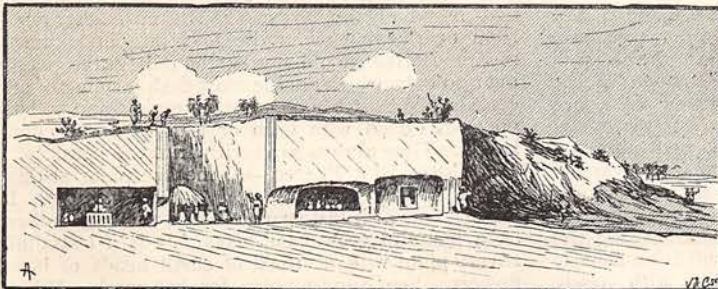
FIG. 1.

Herodotus, in the fourth book of his famous history, has given us some very interesting particulars of ancient Libya. At one place he mentions a tribe of Garamantes who "hunt the Ethiopian troglodytes in four-horse chariots; for the Ethiopian troglodytes are the swiftest of foot of all men of whom we have heard any account given. The troglodytes feed upon serpents and lizards, and such kind of reptiles; they speak a language like no other, but screech like bats." Whether the "screeching like bats" has any connection with the "whistling language" of the Guanches we have formerly described in THE GATHERER, it would be difficult to say, but as

customs die very slowly, and as the Guanches are an aboriginal North African people, now in the Canaries, the hypothesis may have something in it. Of course, the phrase may only be used to describe an unusually harsh primitive language. Be that as it may, travellers in Tunis have discovered a race of cave-dwellers, or troglodytes, who are probably descended from those referred to in Herodotus. Our illustrations will give the reader a fair idea of their underground homes, which are cut in the limestone rock. Fig. 1 is a plan, and Fig. 2 a section, along the line A B, of one of these houses at Techin, near Gabès. A narrow and curving gallery leads from the outside, B (Fig. 1), to an open court, C, from which a large sleeping-room and several other rooms and storehouses open. The courtyard is well shown in Figs. 2 and 3, and the furniture of the interior is very simple. The inhabitants cultivate the soil by means of irrigation from wells in the desert. The resemblance between these underground dwellings and the "Picts' houses" or Gaulish refuges which we have already described in THE GATHERER will not escape notice, and seems to point to a common source. There are caves in the limestone formations of France which were evidently inhabited by cave-dwellers long ago. Some of them are tenanted by the peasants now, and others are used as wine-cellars, stables, or storehouses. The underground refuges and "Picts' houses" are probably derived—in idea, at least—from these caverns. For aught we know of the original inhabitants of Europe, the troglodytes of North Africa may have sprung from them, or else the cave-dwellers of Europe from the troglodytes of Africa.

Heron and Watercrosses.

A curious instance of how the balance of nature can be



THE TROGLODYTES OF TUNIS.—FIG. 2.

disturbed is cited by Miss Ormerod of Cirencester. Quite recently a bed of watercresses was all but eaten up by the caddis worm, and the damage was traced to the fact that a number of herons had preyed too freely on the trout of the stream in which the cresses grew. It follows that lovers of watercress (and trout) should not give too much encouragement to herons!



An Upright Cycle.

There is no doubt that cyclists tend to become round-shouldered through bowing over their machines, and the "Upright" bicycle, which hails from America, will therefore recommend itself to a great many, more especially ladies. As its name implies, it allows the rider to sit upright, after the manner of our illustrations. As will be seen, the frame of the bicycle forms a triangle, on which is the seat, and the steering is done by two bent handles coming from the rear, as shown. These handles are so arranged that the arms of the rider drop to their full length in a line with the shoulders and pedals. The chest is thus thrown outwards and the head is kept erect. The weight of the machine is about 19 lbs. in all. We have not been able to find the address of the maker, but it was recently exhibited in a cycle show held at Boston, U.S., and will probably soon find its way into this country.

#### A Fluorescence Lamp.

Mr. Edison is reported to have made a new electric lamp by utilising the Röntgen rays produced in a Crookes vacuum tube. As is well known, these invisible rays which penetrate the flesh and give shadow photographs of the bones are capable of exciting fluorescence or "phosphorescence" in glass or other bodies, such as tungstate of calcium or potassium platino-cyanide. Mr. Edison has, therefore, coated all the interior of the Crookes tube with crystals of tungstate of calcium, and thus succeeded in transforming the invisible rays into light. The result is an electric lamp yielding a soft radiance—filled with steady light, so to speak.

## AMONGST FLOWERS, POULTRY, AND BEES.

SEPTEMBER.

THE garden is now full of colour. A cloud of delicious blue comes from the Starworts (Perennial Asters), which even rains and frosts cannot destroy. But unpleasant weather rots the tender bedder and fills the garden with evil odours. Towards the end of the month carefully lift any tender plant it is wished to preserve until another year—such as Tuberous Begonias, Pelargoniums, Fuchsias, blue African Lily (*Agapanthus*), and things of that character. If the plants are carefully potted up they will continue to flower some time when under glass. Order all the bulbs required as soon as possible, as success in flowering depends in a large measure upon the time planting is carried out. Get in plenty of Daffodils; this year I had a charming bed of Spanish Irises, which flowered remarkably well, the colours white to deep blue, through lovely shades of rose and orange; they are very cheap, too.

As ground falls vacant, no matter whether in the kitchen-garden or in the flower border, dig it up deeply. There is nothing like thorough trenching to assist crops and flowers through such a trying year as this has proved. The reason is obvious, for when the ground is deeply dug, the roots can get well down, and therefore are better able to resist drought. Make up mushroom beds in house for the winter, keep down weeds, and gather all fruit as it ripens. If fruits, such as Apples and Pears, were more carefully handled there would be fewer losses. Lay the fruit out in single layers and in as cool and airy a place as possible. Tomato fruits ripening off should be gathered and laid in a sunny window to finish. Green fruit will also ripen under similar circumstances. It is far better to do this than run any risks of frosts spoiling them.

Watering is, of course, important, but as the sun's power declines give less, and remove decaying leaves and shoots from plants in window-boxes. Where many tender things are used, the great point now is to preserve the freshness of the garden until a decided frost wrecks the plants. Chrysanthemums must be brought under cover towards the end of the month. It is a mistake to leave them longer. Make the house clean for their reception, and give air at every favourable opportunity. Chrysanthemums detest a close atmosphere.

FOOD FOR POULTRY.—One cannot lay down any rule as to the quantity of food poultry should receive. Much depends upon the age, condition, and breed of the birds. Much mischief arises from overfeeding when the fowls are in confinement. Barley should not be the only grain given, but also oats, which are the most flesh-forming of all cereals. Wheat is good, maize fattening, and boiled potatoes mixed with bran or meal promote good laying. Give always as much variety as possible.

A GOOD BEE PLANT.—A fine bee plant at this season is the Sea Holly (*Eryngium planum*). I made a note of it last year to record this September as a plant to grow near hives. It is a beautiful silvery plant with a crowd of small heads of blue flowers. See August notes for bee work. What applies that month is applicable to September.