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An Orchid and General Plant Pot.



FIG. 1.

A useful pot for plants has recently been patented. It provides, as the illustration shows, in a special way for drainage, and without a perfect foundation no flower can flourish. The moisture-loving orchids are happy in it, as no water stagnates about the roots, but passes away, leaving a well-saturated soil. Those who can raise seedling orchids will find the pot of much value, as failure in the culture of plants usually arises from defective drainage in the pots.

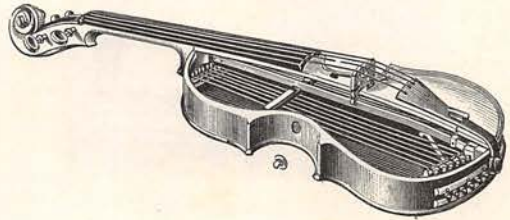
The Air Telegraph of Mull.

Some little time ago the telegraph cable between the island of Mull and the mainland of Scotland broke down, and the post-office electricians instituted an aerial or wire-to-wire telegraph in its place until the cable should be repaired. This method of telegraphing through the air has already been described in *THE GATHERER*, but it had not before been used for actual public telegrams. The message, it will be remembered, is sent along one wire, which, by "induction" through the air, affects the distant wire running parallel to it, and the message can be "read" on that. The distance between the two wires in the case of Mull was about two miles, but four to five miles have been crossed in former experiments. While upon this subject we may refer



AN ORCHID AND GENERAL PLANT POT.—FIG. 2.

to the improvements recently made in the telautograph by Mr. Elisha Gray, of Chicago, whereby a message written by the sender can be received at the other end of the telegraph line in facsimile—that is to say, in autograph. Mr. Gray has now succeeded in reducing the number of wires needed for working the apparatus to a pair, which is an improvement of much practical value. We may also add that the National Telephone Company have been making experiments in duplex telephony—that is to say, a method of sending a telephone message along a wire at the same time as another message is coming along it from the other end. In short, their aim is to make a wire pay a "double debt," and carry two speeches at the same time.



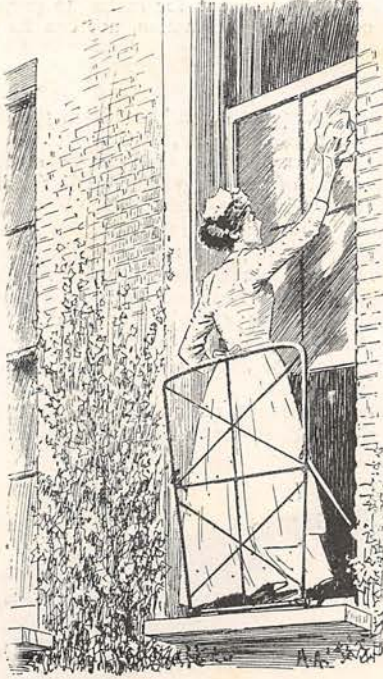
A New Violin.

Professor Wollenhaupt, of New York, has introduced a violin which has two sets of strings—an ordinary one and another inside the sounding box, which acts as a resonator, and prolongs or reinforces the tones of the ordinary strings. The resonating strings are metallic and twelve in number, representing an octave in twelve half-tones tuned from C-B or from G-F sharp, and they can be tuned to the outside strings by means of a key through apertures in the butt-end of the instrument which are usually plugged as shown. This resonator can be dampened and stopped with a lever brush, actuated by the chin of the player. Every tone of the ordinary strings can be prolonged and strengthened by the auxiliary strings. Herr Joachim has, it is stated, expressed his approval of the invention.

Liquid Hydrogen.

It is well known that oxygen gas and common air—which is a mixture of oxygen, nitrogen, and argon, if not also helium—can be liquefied, but hydrogen has until lately resisted all efforts to freeze

or compress it into the liquid state. Professor Dewar, indeed, thought that he might have liquefied it several months past, but there was a doubt as to the result. It now appears that Professor Olszewski, of Cracow, has solved this refractory problem in chemistry, and compelled the lightest, airiest element on earth to shrink into a less volatile condition. The "critical temperature" at which hydrogen becomes liquid is 233° Centigrade below the freezing point.



A PORTABLE BALCONY.

A Portable Balcony.

A balcony which can be fixed or removed and folded up with ease by a single person in a minute or so has been brought out, and will be useful to many, especially as it prevents accidents in cleaning windows. The balcony, as used for this purpose, is shown in our illustration. No fixtures in the window frames are required to fasten it, and it does not injure the paint. Two wooden wedges and two weights are all that is necessary to fix it to the window sill, and these are supplied with the balcony.

Helium and Argon.

Astronomers have recognised a substance in the corona of the sun by means of its spectrum, which they have called helium, but hitherto chemists have not succeeded in finding it on the earth. Quite lately, however, Professor Ramsay—who shares with Lord Rayleigh the honour of discovering argon—has found it in the rare Norwegian mineral called after its discoverer "cleveite." This body, which is chiefly a uranate of lead with some rare earths, gives off a gas when treated with sulphuric acid which Hildebrand, the chemist, regarded as

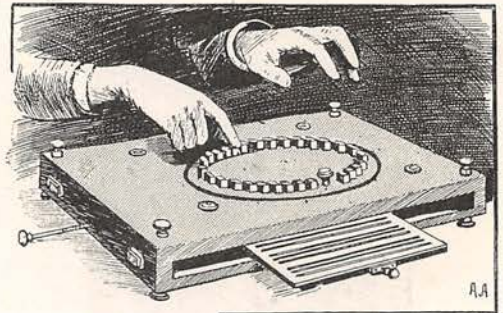
nitrogen. Professor Ramsay has repeated Hildebrand's experiment, and, as he seems to have expected, found that the gas was not nitrogen, but mainly argon and another gas which, when examined in the spectroscope by Crookes, turned out to be helium. The spectrum of helium is distinguished by a yellow band resembling that of sodium, but not quite the same. We may add that M. Berthelot, the French chemist, has also discovered that argon will enter into combination with a number of chemical bodies, of which benzene is one, provided it be stimulated by a silent discharge of electricity. M. Berthelot has a suspicion that helium is only another form of argon, or a combination of argon with some other substance. He has also found that tubes containing argon can be made to fluoresce with a light which, under the spectroscope, yields the rays characteristic of the aurora borealis, which have hitherto been so great a mystery. One of these rays is, moreover, found to agree with a ray of helium. We are evidently in presence of still further discoveries with regard to helium and argon, whose real natures are not fully known as yet.

A Safeguard for Lifts.

Accidents occur through the starting of lifts while passengers are stepping into them, and to prevent these an automatic grip has been introduced. By means of this device the starting-ropes of the lift is held fast, and cannot be tampered with from within or, if need be, from without the cage until the hand-rail or bar closing the front of the cage is down and in its proper place—that is to say, until the passengers are all on board.

The Duograph.

This apparatus is designed by M. l'Abbé Stiltz to enable blind persons to correspond with those who can see. It is, in fact, a kind of double typewriter, which can print the message in ink or the raised letters of the Braille system. The figure shows it in use. By pressing the keys corresponding to the alphabet, and turning the dial, the message is printed in relief or in colour.



THE DUOGRAPH.

Engraving on Diamonds.

Electric motors have been applied in cutting gems at a workshop in Los Angeles, California. The stone is fixed in a frame, which is pressed against the "lap" or grinder, and the friction

cuts the gem as in ordinary diamond-cutting; but the application of electric power is said to be an improvement, as it is so easily controlled by the lapidary. We may add that diamonds are now engraved after the secret process of M. Bordinckx, of Antwerp, which has been transmitted to his son. Thanks to a French scientific journal, we are able to give an illustration of recent jewels containing these worked and engraved diamonds, which may now be seen sparkling in jewellers' shops of the Boulevards, Paris. One is a scarf-pin in the form of a yataghan, the head being a thin diamond and the handle a ruby; another is a pin having a pansy engraved on the gem; another is a pin mounted with a knife of two diamonds; while others are a pin carrying a tiny bicycle with diamond wheels; a pin having a diamond carved like a fish; and brooches in the shape of bees, cut in diamonds.



A PREHISTORIC MONUMENT.

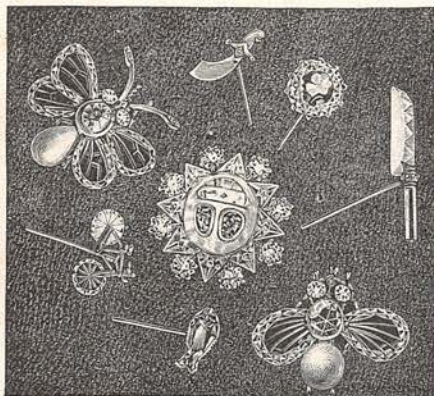
and the folk who built the Lesi were probably the "people of the sea" who were driven out of Egypt by Menepthah and Rameses II. in the 13th or 14th century B.C. From Libya they would pass first to Pantellaria, and thence to Sardinia and the Balearic Islands.

Glass in Greenhouses.

The example of Kew Gardens in glazing some of the forcing-houses with green glass has, no doubt, had many imitators. The plan was adopted on the recommendation of an eminent Fellow of the Royal Society, who believed that green glass, while permitting the effective rays of light to pass, kept back some which were prejudicial to young and growing plants. It appears, however, from recent experiments that the use of green glass in such houses is a mistake, as it really cuts off about half the effective solar rays; and, as the smoky atmosphere of London keeps back more of the rays, the authorities at Kew have now abandoned the green for the clear glass.

Stories in Season.

In the long sunny days of the holiday months the most popular form of literature is undoubtedly fiction. The growing use of the handy single-volume dress for the new stories is one which must of necessity commend itself to all travellers. Mr. Max Pemberton's "The Impregnable City" (Cassell & Co.) is a story so full of imagination and thrilling life, with an interest so continuous and well-sustained, that it would be difficult to find a more suitable book to serve as a holiday companion. That the scene of the story is laid on unfamiliar ground is in itself an advantage, because it helps the reader to a more thorough relaxation.—In "The Avenger of Blood," which is issued by the same publishers, Mr. J. Maclaren Cobban tells a good story of a vendetta waged by a Moorish subject, largely on English shores. The underlying idea of the tale is fresh, and its working out is full of interest.—To Mr. Fisher Unwin's "Autonym Library" Mrs. Oliphant has



ENGRAVING ON DIAMONDS.

A Prehistoric Monument.

Our illustration shows one of the prehistoric monuments called "Lesi" in Pantellaria and "Talayots" in the Balearic Islands, which are somewhat similar to the Nur-Aghes of Sardinia, already described in THE GATHERER. They are usually rounded piles of rough stone, about 60 feet in diameter and 20 feet to 25 feet high. The interior consists of chambers united on a radial plan, sometimes to the number of a dozen, and all on the same level. According to M. Vyssié, these "Lesi" are ancient tombs, and skeletons have been found in the cells, along with small clay vessels unfitted for domestic use and badly fired. He regards them as monuments intermediate between the megaliths of North Africa and the "talayots" and nur-aghés of the Sardinia and the Balearic Islands. Similar vestiges are found in Tripoli and Tunisia. Pantellaria is only 40 miles from Cape Bon, in Tunisia,

contributed a pleasing story under the title "Two Strangers" which cannot fail to uphold the reputation of the handy series of which it forms part.—A capital "fairy tale"—if one may so describe it—for young readers is the Rev. Gerard W. Bancks's story of Merman's country, which he calls "A World beneath the Waters" (Cassell). The story runs pleasantly on, is brightly illustrated, and fresh in its treatment.

Dainty Dishes from other Lands.

English cooks have often been blamed for their neglect of the teaching of the cooks of other lands. Without endorsing all that has been said in this vein, it must be admitted that there is more than a grain of truth in the charge. Mrs. De Salis has endeavoured in "National Viands à la Mode" (Longmans) to collect a few practical recipes for the making of dishes which are popular abroad. Her book is not bulky, but it is very useful, and ought to help to widen the ideas and enlarge the *répertoire* of many an English cook. All who will learn may do so from its simply-worded hints.

GARDENING IN JUNE.

THE early days of June must be devoted to making the garden gay for the ensuing summer. We may consider frosts over now, and therefore put out the most tender things in the open, having previously hardened them off, so as to get them accustomed to our climate, too often fickle even on the threshold of summer. Get out, therefore, the geraniums, tuberous begonias, lobelias, fuchsias, and everything that is to give its touch of colour to beds and borders. See that the carnation spikes are made safe against storms of wind and rain. Pinks will soon be blossoming, and at the end of the month, either layer the shoots or take pipings—another word for cuttings. If to be layered, layer them in the same way as carnations, making up the soil so as to enable the shoots to be easily laid down. Cuttings may be taken off with a heel attached and dibbled in sandy soil under a hand-light.

Border flowers of tall growth, as sunflowers, hollyhocks, phloxes, etc., will require attention. Put a strong stake to each, to prevent winds snapping the brittle stems. Roses will flower better if a little liquid manure be given to them. Do not make a manure yard of the garden, but simply give a little liquid stimulant to the roots of the plants.

Biennial flowers are very quaint and interesting, as a rule. They include such favourites as the Canterbury Bell, and the Foxglove. This is a good time to sow seed, either in pots, or in a well-prepared corner out-of-doors. Always remember to sow thinly.

Primroses, polyanthuses, and auriculas, put out for the summer in some odd piece of ground, should not get too dry. They are often neglected, dried up, and want plenty of water to get them into condition again.

Amongst vegetables there is much to be done. Earth up potatoes, transplant beet, plant celery in trenches, Brussels sprouts, and keep down weeds. Prevent as far as possible the walks from getting smothered with moss and other coverings. The greenhouse must be shaded from very bright sun. If possible, have a tiffany blind which can be drawn up in wet or cloudy weather.

PRIZE COMPETITIONS.

COOKERY COMPETITION AWARD.

AGAIN we have to regret that many competitors have ignored or disregarded the simple rules under which the prizes were offered. The paper to which the first prize would otherwise have been awarded being ineligible, for this reason, the prize is, of necessity, withdrawn. The Editor hopes at an early date to announce a new competition in which the prize will be re-offered, with others.

The *Second Prize of One Guinea* is awarded to
Mrs. MCPHERSON,
"Ardullie," Stanley Street, Bedford.

EXTENSION OF DATES.

In order to give intending competitors in the Post-card Competition an opportunity of gaining a further acquaintance with the character of John Ward, the last day for receiving entries is postponed from May 31st to July 17th. And in the Drawing and Photographic Competitions the entries will close on June 20th and September 3rd respectively, in order that longer time during the summer months may be at the disposal of the competitors. Competitors who have already sent in entries which they wish to withdraw in favour of other works, may have them returned on sending a stamped and addressed wrapper for that purpose to the Editor.

The latest dates for receiving entries in the various Competitions now open are as follows:—

Postcard ("Character") Competition, July 17th.
Photographic Competition, September 3rd.
Drawing Competition, June 20th.
"Home-Life" Competition, July 3rd.

Full particulars of these Competitions, and the Regulations which govern them, were published in the December and January numbers of this MAGAZINE.

PLEASANT COMPANY.

The *Extra Summer Number of CASSELL'S FAMILY MAGAZINE*, published simultaneously with this Number, contains a Complete Story—"one-volume" length—entitled "BOHEMIAN GLASS," by Philippa Legge; a Special Paper on "Dress for Sports and Pastimes," and other attractive items.