

CANDELABRA CACTUS AND CALIFORNIA WOODPECKER.
BY C. F. HOLDER.

One of the most picturesque objects that meet the eye of the traveler over the great plains of the southern portion of California and New Mexico is the candelabra cactus. Systematically it belongs to the *Cereus* family, in which the notable Night-blooming *Cereus* also is naturally included. In tropical or semi-tropical countries these plants thrive, and grow to enormous size. For example, the *Cereus* that bears those great flowers, and blooms at Night, exhaling powerful perfume, as we see them in hothouses in our cold climate, are even in the semi-tropical region of Key West, on the Florida Reef, seen to grow enormously in length.

We cultivated several species of the more interesting forms during a residence on the reef. Our brick house, two stories in height, was entirely covered on a broad gable end, the branches more than gaining the top. There is a regular monthly growth, and this is indicated by a joint between each two lengths. Should the stalk be allowed to grow without support, it will continue growing without division, and exhibit stalks five or six feet in length, when they droop, and fall upon the ground.

Where there is a convenient resting place on which it can spread out and attach itself, the stalk throws out feelers and rootlets, which fasten securely to the wall or brickwork; then, this being a normal growth, there is a separation at intervals of about a foot. That is, the stalk grows in one month about twelve inches, and if it has support the middle woody stalk continues to grow about an inch further, but has no green, succulent portion, in fact, looks like a stem; then the other monthly growth takes place, and ends with a stem, and so on indefinitely. Our house was entirely covered by the stems of such a plant, and the flowers were gorgeous in the extreme. The perfume, however, was so potent that it became a nuisance. Such is the Night-blooming *Cereus* in the warm climates, and similarly the Candelabra *Cereus* grows in stalks, but architecturally erect, fluted like columns. The flowers are large, and resemble those of the night-blooming variety. Some columns remain single, and are amazingly artificial appearing; others throw off shoots, as seen in the picture. There are some smaller varieties that have even more of a candelabra look, there being clusters of side shoots, the latter putting out from the trunk regularly, and standing up parallel to each other. The enormous size these attain is well shown in the picture.

Whenever the great stalks of these cacti die, the succulent portion is dried, and nothing is left but the woody fiber. They are hollow in places, and easily penetrated. A species of woodpecker, *Melanerpes formicivorus*, is found to have adopted the use of these dry stalks for storing the winter's stock of provisions. There are several round apertures seen on the stems in the pictures, which were pecked by this bird. This species of woodpecker is about the size of our common robin or migratory thrush, and has a bill stout and sharp. The holes are pecked for the purpose of storing away acorns or other nuts; they are just large enough to admit the fruit, while the cup or larger end remains outside. The nuts are forced in, so that it requires considerable wrenching to dislodge them. In many instances the nuts are so numerous, the stalk has the appearance of being studded with bullets. This appearance is more pronounced in cases where the dead trunk of an oak is used.

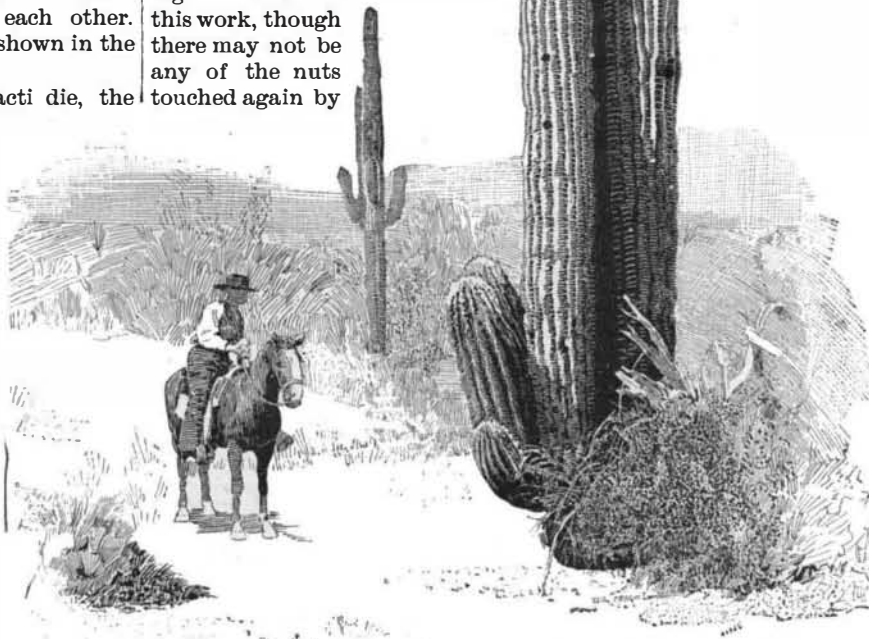
There are some specimens of the latter now owned by the American Museum of Natural History, which were originally sent to the Centennial Exhibition at Philadelphia. They were placed in the department contributed by the Pacific Railroad Company, and at that time were regarded as some of the wonders of that newly explored region through which the railroad was then penetrating. Some portions of the surface of these logs are nearly entirely occupied by the holes with acorns in them. The acorns are driven in very tightly in these examples; much more so than in the cactus plants, as the oak is nearly round, and the holes were pecked in solid though dead wood. One of the most remarkable circumstances connected with this habit of the woodpecker is the length of flight required and accomplished. At Mount Pizarro, where such storehouses are found, the nearest oak trees are in the Cordilleras, thirty miles distant; thus the birds are obliged to make a journey of sixty miles to accomplish the storing of one acorn. At first it seemed strange that a bird should spend so much labor to place those bits of food, and so far away. De Saussure, a Swiss naturalist, published in the *Bibliothèque Universelle* of Geneva entertaining accounts of the Mexican *Colaptes*, a variety of the familiar "high hold," or golden winged

woodpecker. They were seen to store acorns in the dead stalks of the maguay (*Agave Americana*). Sumichrast, who accompanied him to Central America, records the same facts. These travelers saw great numbers of the woodpeckers in a region on the slope of a range of volcanic mountains. There was little else of vegetation than the *Agave*, whose barren, dead stems were studded with acorns placed there by the woodpeckers.

The maguay throws up a stalk about fifteen feet in height yearly, which, after flowering, grows stalky and brittle, and remains an unsightly thing. The interior is pithy, but after death of the stalk the pith contracts, and leaves the greater portion of the interior hollow, as we have seen in the case of the cactus branches. How the birds found that these stalks were hollow is a problem not yet solved; but, nevertheless, they take the trouble to peck away at the hard bark, and once penetrated they commence to fill the interior; when one space is full, the bird pecks a little higher up, and so continues.

Dr. Heerman, of California, describes the California *Melanerpes*, as one of the most abundant of the woodpeckers; and remarks that it catches insects on the wing like a flycatcher. It is well determined that it also eats the acorns that it takes so much pains to transport.

It seems that these birds also store the pine trees, as well as the oaks. It is not quite apparent why these birds exhibit such variation in habits; they at times select the more solid trees, where the storing cannot go on without each nut is separately set in a hole of its own. There seems an instinct prompting them to do this work, though there may not be any of the nuts touched again by



THE CANDELABRA CACTUS.

the birds. Curiously enough, there are many instances of the birds placing pebbles instead of nuts in holes they have purposely pecked for them. Serious trouble has been experienced by these pebbles suddenly coming in contact with the saw of the mill through which the tree is running. The stone having been placed in a living tree, as is often the case, its exterior had been lost to sight during growth.

Some doubt has been entertained about the purpose of the bird in storing the nuts in this manner. De Saussure tells us he has witnessed the birds eating the acorns after they had been placed in holes in trees, and expresses his conviction that the insignificant grub which is only seen in a small proportion of nuts is not the food they are in search of.

C. W. Plass, Esq., of Napa City, California, had an interesting example of the habits of the California *Melanerpes* displayed in his own house. The birds had deposited numbers of acorns in the gable end. A considerable number of shells were found dropped underneath the eaves, while some were found in place under the gable, and these were perfect, having no grubs in them.

The picture shows a very common scene in New Mexico. The columns, straight and angular, are often sixty feet in height. It is called torch cactus in some

places. There are many varieties, and as many different shapes. Some lie on the ground; others, attached to trunks of trees as parasites, hang from branches like great serpents; but none is so majestic as the species called systematically *Cereus giganteus*, most appropriately. The species growing pretty abundantly on the island of Key West is called candle cactus. It reaches some ten or twelve feet, and is about three inches in diameter. The angles are not so prominent, which gives the cylinders a roundish appearance. They form a pretty, rather picturesque feature in the otherwise barren undergrowth of shrubbery and small trees. Accompanied by a few flowering cocoa palms, the view is not unpleasing. The fiber of these plants is utilized in some coarse manufactures. The maguay, or *Agave*, is used in the manufacture of fine roping. Manila hemp is made from a species. The species whose dried stalks are used by the woodpeckers for their winter storage was cultivated at Key West, Florida, during several years, before 1858. Extensive fields of the *Agave* stood unappropriated at that period. Considerable funds were dissipated on this venture. Extensive works were established, and much confidence was entertained that the scheme would prove a paying one, but the "hemp" rope which this was intended to rival could be made cheaper than this. The great *Agave* plants, with their long stalks, stand now, increasing every year, until a portion of the island is overrun with them.

Corrosive Sublimate as a Surgical Dressing.

While we are all familiar with the fact that the bichloride of mercury is a most valuable disinfectant, yet we doubt whether its full power is realized, and whether it holds that high place in the estimation of surgeons to which its undoubted efficacy entitles it.

Considering it as one of the most valuable aids to the surgeon, we deem that all should be familiar with its merits, and we therefore desire to call notice in an especial manner to its use. In one of our hospitals in this city, solutions, varying from 1 to 1,000 to 1 to 5,000, are kept constantly on hand, and when cases of bruised and lacerated limbs are brought in, they are at once enveloped in these solutions, and the results are truly remarkable. One case is so striking as to merit special note:

A small child was brought in with his leg so mangled (bones comminuted, etc.) that the whole surgical staff (three prominent surgeons) decided that amputation was imperative. To this the parents so strongly objected that the surgeons were forced to yield. Explaining to the parents the almost certainty that the child would die, and placing the responsibility where it rightly belonged, the limb was incised in bichloride sawdust. Presto! result, an absolutely perfect limb.

Many such cases could be cited, but suffice it to say that by the use of corrosive sublimate we can save many limbs that would otherwise be sacrificed.

In this connection, it will be well to note that Dr. R. J. Levis has great faith in the potassio-mercuric iodide. He has tablets prepared of such strength that

one dissolved in a pint of water gives him a 1:1000 solution, which with hydronaphthol constitutes his antiseptic armamentarium.—*Med. and Surg. Reporter.*

Progress at Sibley College, Cornell University.

A very desirable feature has been added this year to the usual roster of the engineering course. A number of well known specialists have engaged to lecture to the students, among whom Dr. R. W. Raymond, of the Institute of Mining Engineers, Dr. Leavitt, of the Mechanical Engineers, Mr. C. T. Porter, Mr. J. M. Allen, Dr. C. E. Emery, and Mr. J. C. Hoadley have been announced. These gentlemen select their own subjects, and are able to present to the students the results of active professional life.

A beautifully made longitudinal section of a Deane steam pump has been added to the College Museum. Other firms are preparing similar models.

Preserving Plants.

For the last three years, says Mr. P. Hennings, certain fruits, flowers, and other portions of plants have been preserved in perfect condition at the Berlin University (Botanical Museum), by means of a solution containing four parts of water and one part of alcohol saturated with salicylic acid.