

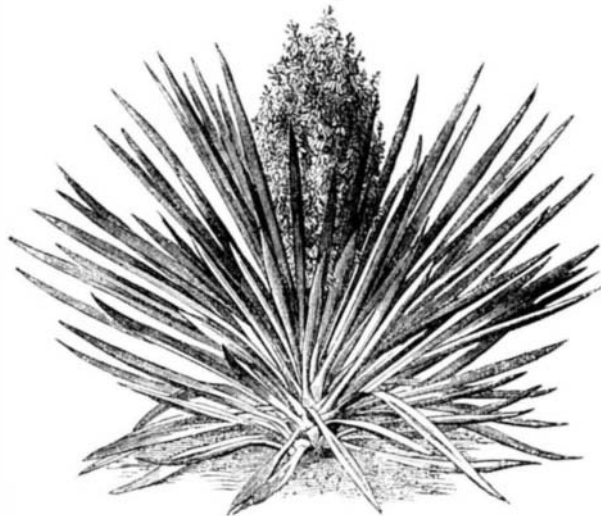
## THE CONE-BERRIED SOLANUM.

Among the plants suitable for indoor cultivation, those which bear berries are generally considered to be the most ornamental. Among the solanums, which are very much sought after for this purpose, the subject of our illustration is likely to become a general favorite. There are several varieties of this species in cultivation, which differ from each other in size and in form of the berries; but the conical berry of the *solanum capsicastrum* is somewhat of a novelty. A correspondent of the *English Garden*, from the pages of which we select our engraving, states that a plant of this variety, about 1 foot high and 1 foot in diameter, was recently seen profusely covered with these berries, which are, when mature, of a bright orange color. It is one of a batch raised from seed sown in March. The seedlings were potted out; and about the last week in May, they were planted out on a western border. Here they received no attention, except occasional waterings until the autumn, when, just before the berries commenced to color, they were carefully lifted, and potted in 32-sized pots. They soon formed new roots, having been kept in a close atmosphere for a few days after lifting; and at Christmas, the plant, from a portion of which the accompanying illustration was prepared, was loaded with berries, handsome both in shape and color. We have no doubt that this variety, when better known, will be generally cultivated.

## TWO BEAUTIFUL YUCCAS.

The yucca family of shrubs are all, we believe, indigenous to this country; and they are now being much cultivated in Europe, and are highly valued for the boldness and vigorous growth of their foliage, and their ornamental appearance when in blossom. There are many varieties of them, some of which we have heretofore illustrated; but we believe that the two specimens here presented are little known to the general public.

The *yucca Treculeana* was first brought from Texas in 1850, and is much cultivated in France, whither it was first imported by Mr. Trecul, after whom it is named. It forms a very stout stem, and the fully developed leaves are from



YUCCA TRECULEANA.

3 to 4½ feet long by 2 to 2½ inches broad, dark green on both sides, with a hard, sharp point, and very fine regular teeth. The inflorescence of this species is an exceedingly dense, many branched panicle, not much overtopping the nearly erect upper leaves. A warm sheltered situation should be selected for it. It will be seen that this plant is one of the most remarkable of its kind as regards general appearance and the size to which its leaves attain. The flower stem, which rises up to a height of 3 feet or more, consists of a mass of branchlets about 18 inches in length, bearing multitudes of cream-colored flowers, shining as if glazed.

Our second specimen is the *yucca gloriosa* of Linnæus; and it has well been styled the most majestic and beautiful of the genus. It has been known in Europe since the end of the sixteenth century; and it was, when first found on our coast (from Florida to North Carolina), about 2 feet or rather more in height. It is now, however, by no means uncommon to see these plants reach as high as 10 or 15 feet, in favorable situations; sometimes, indeed, it stands when in blossom as high as 20 feet, the blossom with its stalk attaining 6 feet. This species flowers freely in sunny situations, after it has reached a certain age; but plants from suckers are usually some years before they flower. The trunk branches after flowering, and it is not unusual to see old specimens many times branched, forming very heavy heads, which should be supported. It is very variable, though, perhaps, not more so than the other species of the genus, but its varieties are better known. The ordinary form or type has upwards of 100 leaves in a dense tuft, 24 to 30 inches long, and 3 inches broad at the middle, narrowed in luxuriant specimens gradually upwards to a brown sharp point, and downwards to 1½ to 1 inch above the base; it is green or slightly glaucous when young, very rigid, even the outer older ones remaining erect; face, concave, with longitudinal folds; margin, entire, with a distinct brown line; panicle, 3 to 6 feet long, according to the vigor of the plant, not downy or hairy; flowers, large, among the handsomest of the genus, almost globular or goblet-shaped, when the petals are incurved; petals, oblong, narrowed into a point at the top, from 2½ to 3 inches deep, the inner ones from 1 to 1½



SOLANUM CAPSICASTRUM.

inches broad, the outer ones narrower, and distinctly banded, or more or less tinged, with bright red down the back; or sometimes the flowers are almost a pure white, seedlings varying much in this respect.

## Chinese Method of Welding.

The *Ironmonger* says that Mr. Balestier, who went on a mission to the East, describes the Chinese method of welding cracked ironwares by cementing them with cast iron while in a liquid state. In a cast iron pan, which Mr. B. required to be welded, the operator commenced by breaking the edges of the fracture slightly with a hammer, so as to enlarge the fissures, after which the fractured parts were placed, and held in their natural positions by means of wooden braces. The pan being ready, crucibles, made of clay, were laid in charcoal and ignited in a small portable sheet iron furnace, with bellows working horizontally. As soon as the pieces of cast iron with which the crucibles were charged were fixed, it was poured on a layer of partly charred husks of rough rice, or paddy, previously spread on a thickly doubled cloth, the object of which is to prevent the sudden cooling and hardening of the liquid metal. While in the liquid state, it is quickly conveyed to the fractured part under the vessel, and forced up with a jerk into the enlarged fissures, while a paper rubber was passed over the protruding liquid inside of the vessel, making a strong, substantial, and neat operation.

## Two Bee Questions Answered.

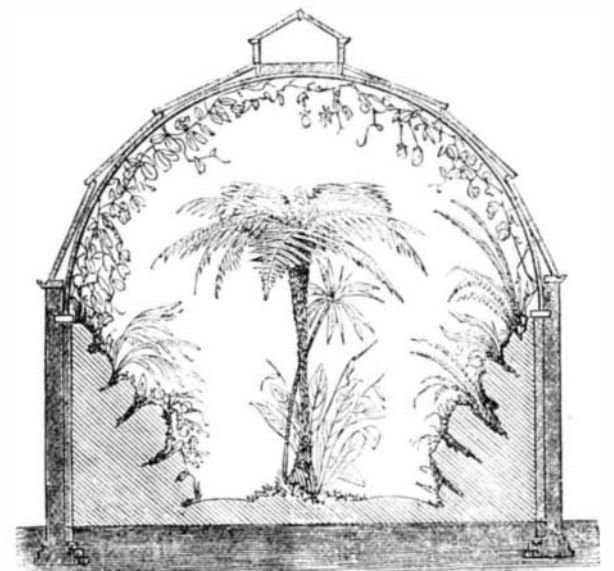
A couple of vexed questions about bees were recently answered by Professor C. V. Riley, at a bee keepers' council in St. Louis. The first query was: Do bees make or gather honey? The Professor says they make it. Thus does Science proclaim that the venerable Dr. Watt was wrong when he

asserted that the busy bee "gathers honey all the day from every opening flower." The nectar lying in flowers never would become honey, says Professor Riley, no matter how manipulated by the hands and minds of men; but it is taken up by the bees and passed through a state of semi-digestion and excretion, resulting in the manufacture of what is called honey, yet still retaining in part the flavor or perfume of the flowers, by which we determine one kind of honey from another. Professor Riley's views were corroborated by a paper read by a botanist and chemist of Louisiana, describing the process of change undergone by nectar in the stomach of the bee, in order to become honey.

The second question is an interesting one to fruit raisers, as it involves the mooted point of whether bees do or do not injure fruit. Professor Riley, on being appealed to, produced an illustration of the order of hymenoptera, stating that the mouth of the bee is the most complicated structure in insect anatomy. Its construction, however, is the same as that of the wasp, and no one denies that the wasp is capable of destroying fruit. The Professor thought beekeepers were prejudiced against the idea of such power in the possession of a bee, but it is true. Still, while being capable of injuring fruit, the bees rarely do so except in seasons of severe drought and when urged by necessity. This fact is no derogation to the usefulness of the insect, for the exercise of its power as a pollinizer is of undoubted value to the orchardist, even with all its depredations upon fruit.

## A NEW FORM OF FERNERY.

We publish herewith an engraving showing a cross section of a new form of fern house, recently erected in Scotland by Messrs. Boyd, of Paisley. The arrangement is so well shown in the illustration that but little description is necessary. The building here shown is of large size, 30 feet high in the center, and 60 feet long; but the plan can of course be adapted to circumstances. In this case strong brick walls are carried up both sides and at one end, from which the rockwork slopes irregularly down on either side, forming a miniature ravine with a water all,



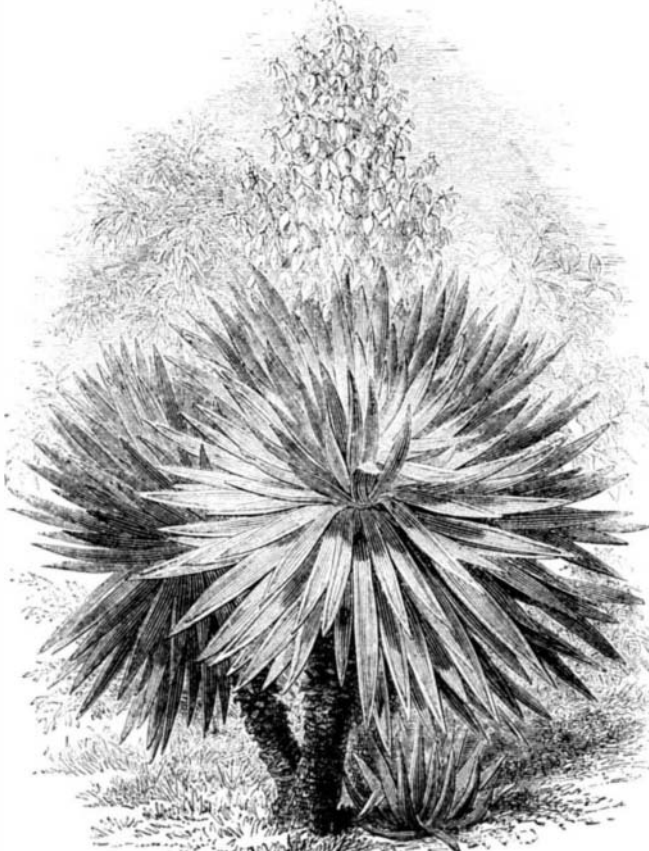
the stream meandering round the crags and among the stately tree ferns. The building is covered by a glass roof, supported by strong iron girders, and the interior is left without a single pillar or tie rod, leaving the space wholly to the ferns and rockwork.

## Useful Recipes for the Shop, the Household, and the Farm.

A correspondent of the *Ohio Farmer* gives the following method of making a simple corn marker: Take a plank 7 feet long, 16 inches wide, and 1½ inches thick. Pin this on three blocks, 5 by 8 inches thick and 16 inches long, putting one block at each end and one in the middle. With this length the marker is easily turned at the ends. For a tongue, get a smooth tough pole, and fasten it to the center of the plank in such a way that, when the team is hitched up, the marker will stand level. Now take a lath, 1 by 2 inches thick and 10½ feet long. Drive a staple into the plank at each end of the marker and one in the middle. Pass the lath through one outside staple and the end just through the center staple. Fasten a chain to the outer end, and the marker is completed. The chain marks where the middle block or marker must follow the next time across. The lath must be shifted at each end so as to keep the chain on the unmarked land. When using it, stand on the middle of the plank and keep the tongue directly over the chain mark. If the first mark was made straight, all the rest will be so, and equally distant apart. If desired, the lath may be fastened to the middle of the plank with a bolt, so that it can be turned from side to side without lifting. Secure it in position by another bolt, passed through the lath and plank, near the ends of the lath.

It has recently been found by experiment at Cornell University that, as farmers generally know, by sprouting garden seeds before sowing there is a gain of three or four days in the time of ripening.

For plating iron, steel, brass, lead, and zinc with tin, the following has recently been proposed. Prepare a solution of perchloride of tin by passing chlorine through a concentrated solution of salt of tin. Dilute the pro



YUCCA GLORIOSA.