

Comb Foundation.

AFTER years of use under every varying conditions, the advantages of comb foundation in the apiary is now generally conceded. While it does sometimes happen that bees are slow to work out the foundation it will be found on careful examination that some utilize the foundation greatly to the advantage of the bees as well as the owner. If foundation is given to a weak colony in the early part of the season the foundation is sometimes cold and as hard as a chip—so brittle that it will break under the touch. When in this state the bees can do nothing with it, and the animal heat created by the bees is not sufficient to soften the wax of the foundation sufficiently to allow the bees to draw out and manipulate it. We have found by careful experiment that the wax composing the foundation must be plastic or the bees will pay no more attention to it than if it was a pine board or a plate of tin. Where the colony is in a breeding condition and the foundation in the hive untouched by the bees, holding the foundation frame and all in the sun will often bring the foundation to the right temperature, and when returned to the hive the bees often take it and work it out within a few hours. Such exposure must, however, be made on a warm, pleasant day to insure the best results. There is no substance that we know of that corresponds exactly with beeswax in all its qualities, as to change of condition under the influence of heat and cold, and in using comb foundation in the bee hive it retains all its qualities as wax, if the foundation is made of pure wax, and nothing else should be used in its manufacture. Adulterated foundation is on the market but should be avoided by the beekeeper if he expects any good results from the use of foundation in the apiary, and the beekeepers should be careful to put up their wax in good condition and thus insure good foundation. If the sun extractor is used the wax ought to be removed from the extractor as soon as in proper condition, for where it is exposed too long to a very high degree of heat it loses its fatty or oily properties and becomes brittle and unfit for foundation. Where fire heat is used in rendering wax the greatest care should be exercised that the wax is not scorched or burned, for if it is then it is unfit for use in making comb foundation, and for other purposes it brings but a low price in market, expert dealers often refuse to buy it at any price. Unprincipled persons often mix tallow with wax and offer it for sale but the adulteration is so easily detected that the experiment often proves un-

profitable. Such wax is unfit for comb foundation and will be rejected by the bees when put in the hive.—Rural Californian.

Whenever the bees require comb foundation for use the weather is usually warm enough to allow them working it out themselves, we fail to see the necessity for holding it in the sun, at least such is the case in this country. Before bees require any foundation in spring, the weather must be warm enough to allow them to draw it out and as the temperature inside of the hive is very much higher than outside, we have found their heat quite sufficient for all practical purposes. We have known adulterated wax to be made into foundation, that the bees refused to work out. A good test, to find whether the fault lies with the foundation, weather, or weakness of the colony, is to put a piece of good foundation in by the side of a piece the bees refuse to work, and if they refuse to work the good, we at once conclude the colony is in a weak condition or the weather too cold. This also implies to foundation in brood chamber in sections, even in warm weather, we have frequently known them to refuse to go into the sections to draw out the foundation, this was caused by the absence of a honey flow which indicated to them, that they did not require it and it seems as if there is an innate principle in them not to waste their energy unnecessarily in that direction.

A New Bee-Smoker.

THE Official Gazette of the United States Patent Office contains the following: Bee-Smoker, Tracy F. Bingham, Abronia, Mich. Filed Nov. 10, 1891. Serial No. 411,436. (No model)

Claim.—1. In combination with the bellows, stove, and perforated fire plate fitting within the stove, a corrugated or ribbed sheet metal support extending nearly around the same, substantially as described.

2. The combination, in a bee-smoker, of a horizontally arranged bellows, a stove, a tapering nozzle, and the angular head for deflecting the jet of smoke downward without tipping the smoker, substantially as described.

3. In combination with bellows and stove, the tapering nozzle having a suitable operating-handle consisting of a wire having one end secured to the nozzle and its remaining portion coiled around the said nozzle, part of the coils