

practically manufactures his own boxes, and the arrangement of his hives outside and inside is what he has made his own after thorough examination of the task of bee-keeping. By conscientiously carrying out the line of principle and economy which dictates, as above, the keeping of bees he has been enabled, with several others, to not alone gain a reputable fame as a honey producer, but likewise to make money. He has found, as has been stated in the fact before, that honey is so good that people will encourage the production of it by buying when it is known to be pure.

A bee-hive of to-day is not the conoid, chined by rings, upon a stand, which a child was wont to find in the picture in his old reading book. Several years ago they began to consist of large upright cases, but these were placed on a high stand. The system and science of the present makes of the hive a flattened, roofed case upon the ground. Each case contains, instead of the old-fashioned compartments, which held comparatively vast measures of comb, one large compartment. From side to side run frames nearly as wide as the compartment is high, and having room enough between them to admit of the building out of the comb. Seven or eight of them are usually found in one hive. The frame takes the place of the old-fashioned box, in which, as referred to before, the bees stored honey in the other days. They were left, in those days to form the entire comb. In relation to this, probably the most important advance in honey-production for years has been an invention by which the busy bustling bee is saved work of the most exhausting kind in building comb like this. Formerly the insects were left to start their work as they pleased. Sometimes it was hard to induce them to start at all, for the task of constructing a foundation for the comb was not pleasant. It required time, too. These new frames take their names from the fact that they are like for instance, window frames. The invention is a thing called comb foundation, and is to these frames like window glass to window frames, though it does not serve for lighting. Comb foundation is a thin sheet of pure beeswax with the impression of cells made on each side, of same size and as regular as when made by the bees. A rim of wax is left around each cell base, which is built out into comb by the bees. It is made of different weights, that used in the body or brood nest of the hive being quite thick and containing wax enough to furnish material for the complete comb. It is readily accepted by the bees and is worked out in a few days. That for surplus boxes is very light, about 12 or 14

square feet to the pound, and is almost transparent. By its use the bees store honey more readily in small boxes and finish or fill out the whole box better. By the use of separators, thin movable partitions placed between each row of boxes, they are guided to build the surface of the combs as flat and even as a board, without which they are uneven and bulged, and cannot be crated. Now with the frame is used a machine called the extractor. This is of German invention. By centrifugal force the honey is thrown out from the combs, which are first uncapped by delicate knives. The frame containing the comb is removed when the cells are emptied of their contents, and replaced in the hives, where they are refilled by the bees, thereby saving the honey required to make wax and the labor of building the comb. In modern hives all combs are built in frames, and are easily removed. Such combs may be extracted time after time, season after season and be as good as ever. By extracting every few days during a honey flow large yields are obtained. According to scientific bee men, the busy bee does not gather honey in a commercial form directly from the flowers it lights upon. The nectar which lies in each blossom is carried to the hives and stored in the cells, but not until the cell is making does the fluid become commercial honey. Then formic acid is added, and again the comb is treated with it when the comb is capped, the acid being absorbed through the porous capping. This is not only a preventive of fermentation, but it changes the raw or natural sugar to its inverted form, similar to grape sugar, giving that smooth, mellow taste. This change partly digests the nectar, making it nearly ready for assimilation. A change similar is made in cane sugar in the mouth by the action of saliva before it is swallowed. Such honey is less irritating and a better food. There are many valuable facts in regard to the use of honey as a food and medicine which are not generally known.

The principal sources of honey are willow, maple, dandelion, pear, gooseberry, plum, apple, locust, raspberry, blackberry, horsechestnut, white clover, alsike clover, basswood, catnip, buckwheat, golden rod and wild asters. Flower gardens are of little or no account as sources of honey. The gentleman who has been referred to has his surplus crops from apple, raspberry, clover, golden rod and asters. Apple honey is not generally obtained in quantities in boxes, but by special management it is obtained when the weather is such that the bees can work during blossom time. It costs more bee power to get it, and as it is rare will bring a better