

Best and most practical new invention for the apiarist, never shown before at this exhibition: 1st, E. L. Gould & Co.; 2nd, Leitch Coldwater; 3rd, J. B. Hall.

Largest and best variety of uses to which honey may be put in goods: 1st, R. H. Smith; 2nd, Geo. Laing.

For the most tasty and neatly arranged exhibit of honey in the apiarian department, all the honey to be the production of the exhibitor. \$25 of this prize is given by the Ontario Beekeepers' Association: 1st, R. H. Smith; 2nd, J. B. Hall; 3rd, E. L. Gould & Co.

To the exhibitor taking the largest number of First prizes for honey at this exhibition, 1891: 1st, R. H. Smith; 2nd, Geo. Laing and J. B. Hall.

The judges, Messrs. C. W. Post, Murray, Ont.; J. B. Aches, Poplar Hill; and Murray of Owen Sound, appear to have given very general satisfaction, and went about their business in a way to convince the exhibitors they intended to do their duty without fear or favor.

### Ripening Honey.

S. CORNEIL.

ON visiting a neighboring bee-keeper a short time ago, I found he was putting his honey into cans for market, just as it came from the extractor, and I learn that many bee-keepers in a small way follow the same plan.

The first clover honey from my yard this season was quite thin, although partly sealed before it was extracted. Nearly all extracted honey requires to be evaporated before it is put up for market. In 1883 we had honey sufficiently dense to be ready for market as soon as taken from the hive, but we have not had such honey since. I know much is said about leaving it in the hive till it is partly sealed over, but even then the unsealed honey in the lower part of the combs will probably be only freshly gathered.

Mr. R. McKnight, Owen Sound, Ont., heats his honey in a large double-walled tank, the space in the double bottom and walls being filled with water. By means of a faucet passing through both walls he runs his honey into glass jars and seals it while hot, the same as is done in preserving fruit. He assures us that honey so treated will remain liquid even when exposed to the severest cold.

All things considered, the best plan for most bee-keepers is to expose the honey to the outer air until it is reduced by evaporation to the proper density. We are obliged to take the atmosphere as we find it, so I shall leave out of the question the humidity of the atmosphere, and

its pressure, both important factors affecting the rapidity of evaporation, but they are beyond our control. The remaining factors which are within our control to a considerable extent, are: 1st—the extent of surface of honey exposed; and 2nd—the frequency with which the air in contact with the surface of the honey is changed.

The rate of evaporation is in direct proportion to the extent of the surface exposed. The time required to evaporate 100 pounds of honey, having a surface of two square feet, to a given density, is only half as long as is required for the same quantity, when the surface is only one square foot, other things being equal.

As to the second factor, when a small quantity of honey is placed in a narrow deep can the evaporation will be almost nil, because the stratum of air in contact with the honey soon becomes saturated with watery vapor, and evaporation almost ceases, whereas if the surface of the honey is as high, or nearly as high, as the edge of the can, the movements of the air over the honey are more free, a fresh body of air is constantly being brought in contact with the honey, and evaporation goes on rapidly. For the same reason the ground dries up more quickly after heavy rains, if they are followed by winds.

Applying these principles to the problem in hand, I made three shallow, tin-lined tanks about three by six feet each, giving an exposed surface of about eighteen square feet for say 1,000 pounds of honey in full. A frame covered with wire cloth keeps out insects, and a cover keeps out rain, but the later is put on only at night, and when rain is threatening. Into these tanks the honey is emptied as fast as it is extracted, and it remains exposed to the air and sunshine, sometimes for weeks before it is packed for market.

But you ask how do you know even then that it is ripe enough to be fit for packing? Most people dip the tip of the little finger in the honey, stir it around a little, give it a lick, and then pronounce the honey ripe or otherwise as the case may be. This is a very uncertain test, because the apparent thickness or thinness of the honey is very much affected by its temperature. Every honey producer should provide himself with a thermometer, and a hydrometer. The latter instrument consists of a stem of glass, about as long and thick as a lead pencil, terminated with a bulb loaded with fine shot, so that when the instrument is placed in pure water at 600 it sinks until the upper end of the stem is just a little above the surface of the water, floating at nought on the scale on the stem. The denser the liquid the higher the