had upon one occasion wintered a hive out of doors on nine pounds of honey.

Dr. Hamlin, of Tennessee, gave his experience in outdoor wintering He equalized his stock and regulated the ventilation to the strength of the swarms He had used for a covering of the honey boards, straw, corncobs or hay. Year before last he had a hundred and fifty-six swarms, and lost none of them.

SECOND DAY'S PROCEEDINGS.

On being called to order, the Association proceeded to discuss the

SECOND TOPIC.

Dr. Bohrer, Mr. Gallup, Mr. Moon, Mrs. Tupper, and others described the methods they adopted, in the practice of artificial swarming. Mr. Gallup's plan was to take a single frame without bees from each stock, until he had filled a hive with frames, then place it on the stand occupied by a strong stock moving the old stock to a distance. Thus while he multiplied as fast as it was wise to do so he kept all his stocks equally strong. Under this topic various advices were given to beginners that could not fail to be of great use to them.

THIRD TOPIC.

How far is it wise to prevent swarming? was the third topic.

Dr. Bohrer, of Indiana, said the answer to this question depended upon whether the subject was to produce the largest amount of surplus honey or the multiplication of colonies. If the former was the object, swarming should be entirely prevented.

FOURTH TOPIC.

Are hybrids better than pure Italians?

Dr. Bohrer said that if the bee keeper wanted to get up a fight early in the spring, hybrids were the bees to have

Mr. Root said the hybrids were good workers on white clover. The pure Italians made honey from flowers that other bees would not touch.

Mr. C. F Muth of Cincinatti, said he had hybrids, and had never had any difficulty with them about stinging.

General Adair said that he believed that we had two varieties of the native bees in the United States The large gray bee, a distinct species from the black bee of the south, was, he believed, better than the Italian bee, and was not as vicious.

Mr. Stevens, said he had the gray bee, and had always had it, and preferred it to the Italian bee.

Mr. Peck, said a black queen fertilized by Italian drones brought forth gentle hybrids, but an Italian queen fertilized by black drones brought forth a vicious brood.

Mr. G. W. Zimmerman had his black queens mated with Italian drones, and found the resulting stock much more energetic than others.

Mrs. Tupper, of Iowa, would get pure importations from Italy frequently—that is, of queens—and put them in hives if she wanted the best results in honey from her bees.

FIFTH TOPIC

The cause of bee swarming constituted the fifth topic.

Mr. Otis said his opinion was that the swarming of bees was owing to the storing instinct, together with the antipathy of one queen against any other queen in the same colony. A hive became stocked with honey and supplied with two queens, and it was found necessary to divide.

Dr. Claypool said he had last year one stand of bees that became overstocked, and hung outside the hive, but did not swarm.

Mr. Root said that in half a dozen instances, he had taken every drop of honey from a hive and cut out every queen cell, and yet the bees swarmed.

Mr. Barger said he had seen the queen drop in front of the hive and the swarm leave. He had also known ten queens go out with one swarm.

Mrs. Tupper believed, also, at one time in her life that bees never swarmed without a queen cell, but last summer she found the contrary. She did not have an Italian colony swarm, last season, that had a queen cell.

Gen. Adair said that last year he had a large number of swarms in which no preparation for swarming was made.

Mr. Moon had put bees in a hogshead and had them swarm. He had put them in a salt barrel, and found they would swarm when the barrel was only one-third full. He believed they swarmed because it was a natural instinct for them to do so.

Mr. Langstroth said that if there were no disposition on the part of the bees to swarm we should soon have an end of bees. He said no invariable rule could be laid down in regard to swarming, but that Mr. Moon's view was undoubtedly correct.

SIXTH TOPIC.

What are the troubles to be met with in bee keeping? This broad, endless question formed the sixth topic.

Mr. Moon enumerated the chief difficulties as bees swarming and going to the woods, the moth, robbing, and wintering

Mr. Porter, of Minnesota, said he had had his share of trouble with them. He would rather undertake to find ten Italian queens than one black queen. A feather or bristle brush were either of them very irritating to bees. A willow broom was better in handling them. He detailed his experience in introducing a fine Italian queen into a hive of black bees. He killed the queen of the black colony and put his Italian queen in, then next day looked and saw her dead. He watched the hive closely, and at one time saw a small bee laying. He often found six or eight eggs in a cell. He came to the conclusion they needed food under these circumstances. He gave them food, and all was right after that. He was satisfied that where the bees had not honey, the queen would lay a great many eggs in the same cell.

Mr. Langstroth said he had known foolish queens to put a multitude of eggs in the same cell. He had known queens deposit eggs outside the cell, and that where fertilized.

Gen. Adair had also known queens to deposit eggs outside the cells. He had found this in the case of queens fertilized in confinement, and had known the same queen to act properly when she had been permitted to leave the hive for fertilization.

Mr. Clarke, of Canada, said that one great trouble in bee keeping was the lack of determination to succeed. Lack of attention to details was also the cause of much failure.

Mr. Hart told of a visit to a friend of his in the Western part of Ohio, where he met a lot of bee keepers. None of them had a book on the subject of bee keeping, and none of them took a paper on the subject. He advised them to form a society of bee keepers, and they did so. He has heard from