

don't think he would want to help long. If there are no end cleats, then the rope can't well be used, but for other reasons I would have cleats anyhow.

If the hives are so arranged that you can easily put something under the bottom, then the carriers such as Mr. Root describes and sells, are good. They are much the same as two pail bailers or handles, with bent hooks to catch under the hive. Although I occasionally use them, I don't think they compare with the rope.

Yes, I would bring the bottom boards in with the hives, and I have bottom boards purposely made for winter with a two inch space under the frames, reversing them for summer. With coarse wire cloth at the entrance there is then no danger of mice getting into the hives.

With the deep bottom boards there's no need of piling hives so that each hive rests on two others, for in that case if you jar one hive you jar the whole lot, and when piled up in a straight pile, jarring one can only affect three or four others.

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Marengo, Ill.,

—Bee-Keepers' Review.

### Carniolans vs Italians.

At the convention held by the Missouri State Bee-keepers' Association at Sedalia, Mo., Mr. E. F. Quigley read a paper entitled Carniolan bees as compared with Italians.

The Missouri Bee-keeper condensed the essay as follows:

In comparing the two races, Carniolans and Italians, they were kept in the same yard for three years. With a steady honey flow, Carniolans stored more surplus honey than the Italians, with about the same per cent. of swarms. With a poor honey season, the Italians came out ahead. Italians are as prolific up to the commencement of the honey flow but check brood-rearing and fill a part of their combs with honey. While the Carniolan keep up brood-rearing until late in the fall, using up their stores, and in many cases require feeding for winter. Carniolans swarm many times when no honey is being gathered. It is claimed they are very gentle, they may be in their native country. I did not find them as gentle as Italians. My queens were from the best breeders in this country. In keeping the two races for three seasons the Italians gave more honey with less labor and stings.

The paper was discussed at length, Albino bees also included. The result being that Italians were considered preferable to all other races.

Some of the answers to the questions placed

in the question box are instructive. We cull a few:

Q. Will inverting frames cause the bees to tear down queen cells?

A. Think it would.

Q. What encouragement should bee-keepers hold out to farmers to sow honey-producing plants?

A. No inducement unless profitable to farmers also.

Q. What are the most certain indications of bees swarming?

A. To see them coming out.

Q. Will bees swarm without drones?

A. Yes.

Q. Has any one tried alfalfa in this country and with what success?

A. Yes. With varied success.

Q. What is the greatest mistake you have made in bee-keeping this season?

A. Making too big calculations on the honey crop; allowing bees to swarm too much; extracted too late in season.

Q. Are bees ever a nuisance?

A. No. They are useful in fertilizing all kinds of fruit, besides storing honey.

### Spraying Fruit.

**S**PRAYING fruit has received an advertise ment that will result in making known its merits far and wide. The New York City Board of Health recently condemned grapes on the market that showed signs of poison on the stems, and had tons of them destroyed. The hasty action of the Board caused a grape panic. An investigation showed that the grapes had been sprayed with a solution of the Bordeaux Mixture, and that traces of the sulphate of copper remained on the stems. The matter was referred to the Department of Agriculture, which has for several years been recommending the spraying of grapes with this mixture, as a preventive against fungus diseases. The department officially replied that over a ton of grapes, sprayed eight times with the mixture, would be required to furnish a single poisonous dose. After consumers understand it, they will not hesitate to purchase perfect fruit because of the means used to make it so, as long as they are harmless.—Farm and Fireside.

Spraying fruit trees, plants and vines for the prevention of the ravages of insects and fungus diseases is no longer an experiment, but a necessity, in order to get large crops of perfect fruit. For full information on this subject address William Stahl, manufacturer of Excelsior Spraying Outfits, Quincy, Ill., who will send, free, a full and complete treatise on this subject.