

same time; and what is wanted is something to occupy the *leisure* time of the bee-keeper.

Teaching school, I think, comes nearer to it; for the busy time with bees comes in the summer vacation, and one with sufficient strength and the right taste might take care of quite a number of colonies without interfering with school duties. I think, however, he would in time decide as I did, to give up one or the other. A notable exception, however, is in the case of Mr. E. A. Gastman, of Decatur, Ills., who has been for many years superintendent of schools, if I am not mistaken, and at the same time a bee-keeper. Mr. Gastman, however, is a man of magnificent physique—by the way, it just occurs to me that he is very much the build of G. M. Doolittle—and looks as if he might easily do the work of two ordinary men.

Of course, there may be many special departments in which different individuals may have developed special taste and ability, where a somewhat successful combination might be made. For instance, the teacher of the old-fashioned singing-school (now unfortunately out of vogue) could take care of bees without interfering with his "schools," held only on the long evenings.

But what we are after is something that may be done by almost any one with the requisite qualifications to be a good bee-keeper. I think I have heard poultry-keeping spoken of in connection with bee-keeping. That, again, comes too much like berry raising. When work begins to press with the bees, old Biddy will be wanting to sit, and perhaps two or three hens will be sitting on one nest, persistently changing from where you want them, till you feel like shutting your teeth together hard, and saying: "What does make you act so, when I haven't time to fuss with you? I should just like to wring your necks for you." Yet after all this is said, there remains the fact that, in at least two instances, periodicals have been published having for their specialties bee-keeping and poultry-raising. Why this, unless the two pursuits were supposed to have some special adaption to each other?

To tell the truth, if a young man to-day were to write me: "I have at least ordinary ability as a bee-keeper, and have decided that I must have some other pursuit to connect with bee-keeping, what shall it be?" with my present knowledge I should reply: "Keep poultry." But I would not have any hens sitting in swarming time, nor, indeed, with flocks of little chicks wandering about, trying to lose themselves in the wet grass. I have studied some little about it, and taken some observations; and I think the whole business of poultry-raising might be

done almost entirely when bees require little attention.

Mind you, I do not say it is best to combine at, but if combining is done, the merits of poultry-keeping deserve consideration.

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### Early Winter Management of Bees.

**S**UCCESS with bees depends largely upon fall management. At no other time in the year is more careful manipulation required than in preparing bees for winter quarters. To place a colony in the best possible condition a fair amount of broodrearing should be kept up during August and September. In most localities very little if any honey can be gathered by bees during those months. Hence brood-rearing is checked, and very few, if any, young bees are hatched during this time. So at the beginning of winter the swarms go into quarters, made up of bees that are certain to die in large numbers with old age before spring, leaving weak stocks to commence the season's work. It is therefore important to see that the necessary amount of breeding is kept up during the fall months to furnish young bees to stand the long confinement of winter. This is in the power of every bee-keeper, by simply feeding enough to stimulate brood-rearing, during the scarcity of natural stores. It is also necessary that every colony should contain a good fertile queen. The queen is the life of the colony, and, however careful we have been in other particulars, if we have omitted this important part it certainly will endanger the loss of the colony. Every colony should have twenty-five or thirty pounds of good sealed honey to carry it through the winter, and if the bees lack the required amount they should be fed. If the feeding is done in September, the weather being favorable, it will allow the bees to seal up their stores, which is very important, before going into winter quarters. It has been pretty generally settled by bee-keepers that granulated sugar is the only safe food for bees during winter. It is not advisable under any circumstances to attempt feeding bees honey or syrups of any kind during cold weather; it will produce dysentery, and increase the loss of the colony. Syrups made in the form of candy may be used, but must be given them during a warm day when they are flying freely. Out-door wintering in chaff hives is preferred by the majority of apiarists, though many still winter their bees successfully in cellars. But no one can reasonably expect