

begin to dry up, if then it is exposed to any current of air whatsoever the rate of drying will be increased, and if the eggs are kept in several layers the upper layers will dry more rapidly than the lower layers, leading to the trouble of different sized air spaces in the eggs while hatching, and so one would be likely to have the rate of evaporation in the machine all right for some eggs and all wrong for others. What we need to do, if we can, is to keep the contents of our eggs from evaporating at all until they are put in the machine. It is necessary to remember that although the air surrounding the eggs should be still it must at the same time be perfectly pure, for each egg is really a little life temporarily suspended.

This again brings me to another point that calls for careful attention, viz., don't leave your eggs in the nests for too long a time after the hens have laid them; it appears as though the germ begins to develop as soon as the egg is completely formed, although if the egg cools down as soon as it leaves the hen the hatching can afterwards be resumed with more or less failure as the interval between the laying of the egg and its being placed in an incubator or under a hen is long or short. But if on a summer day the hen sits on her egg until it is dry, and when she quits another takes her place in the nest, and so on through maybe four or five hours, with the thermometer at 85° or 90° in the shade, it follows that the germ has begun to hatch before the egg is taken from the nest, and when cooled down to the ordinary temperature of the air will certainly die, afterwards "All the King's horses and all the King's men cannot put Humpty Dumpty together again." When such eggs as these are put into an incubator or under a hen and tested at say, three days, they are very apt to pass muster as hatchable eggs, but at the next test, say ten days, they look like addled eggs, which they are in fact, not because they were originally infertile but because they had begun to hatch under the hens in the nest. This is true very much oftener than people think and is a point worthy the attention of all poultrymen, for there is nothing in all this world in the shape of a hatcher, whether it be hen or incubator, that can bring a live chicken out of a dead egg.

Another point to be observed is this: There is as much individuality in hens as in human beings, some are quiet and nervous, others slow and unaffected by

slight external causes, and the eggs from the lively hens will hatch anywhere from ten to twenty hours before those from their more sluggish sisters, and this feature while comparatively unimportant in the thirteen or so eggs that are put under a hen, is apt to have very important results in the hundreds of eggs put in an incubator, and although it is true that a properly hatched chick will go well thirty to forty-eight hours after hatching before it is fed, yet it is not good that they should be exposed for so long a time to the comparatively used up air of the incubator. Therefore, take your eggs for one hatch from birds as near as may be of the same disposition, let them be, both hens and eggs, as nearly as possible of the same age, reject any that are unusual in either largeness or smallness, or that are very long and pointed or very round and blunt, particularly do not put in any that have a ridge around the shell, or that when held between the eye and a strong light show unevenness of shell, or an air space in the end where the egg has begun to dry up.

This letter, I am afraid, is already too long and I must, therefore, defer what I wanted to say on the incubator until next month.

A very interesting article on "Operating the Incubator," by Mr. W. H. Graham, Belleville, we are unable to squeeze into this issue. It will appear next month. Send us your experience, failure or otherwise; if the former perhaps one of the REVIEW's experts can help you.

"I have sold my twenty-five acre farm and have moved into town again. I have one acre of land and intend building a good hen house, about 12 x 24 feet, and I thought if there is anything to learn about building I want it from the Poultry Architect. I am just keeping three breeds, white Rocks, barred Rocks and black Minorcas, and will divide my pen in three parts, with good large yards in summer. There is a man in this place who has a fine hen house and when I can spare time I will call and make a sketch and send it to you and you can let me know what you think of it. I will also try and get him to subscribe for the REVIEW. He is a new beginner but a great genius and has lots of original ideas. There are a number of others whom I will try to get to subscribe. N. A. Loucks.

Dresden, Jan. 4, 1899.

We cannot have too many. It is only by an increasing list that we can further improve REVIEW. —Ed.