

perience in a dear school, the academy of practical experience.

This spring we exhausted our supply of wheat chaff, for the brooders, and put in some hay chaff, and this had some thistles among it. In a day or two our beautiful nimble chicks, two weeks old, began to "mope around", as the saying is, and we could not account for it at all. All acted the same way, would not stand up; they were hearty in appetite but seemed in pain. At last our better half made a close examination, which revealed the fact that the thistle thorns had pierced the feet of the chicks to such a degree that they found it more pleasant to lie down than to "stand on thorns," literally too. Mrs. P. extracted eleven thorns from the feet of one bird, some had gone through and were protruding on either side of the feet. Now don't you think for a moment that the skin of a chick's feet is "tough," as our querist put it; far from it, in a young chick the skin is quite tender and the feet readily bleed, even the pecking of the chicks at the feet of each other in the incubator will draw blood. That is a good way to learn about the thistly chaff not answering for the brooder floor. Don't you think so reader? We are not apt to forget the lesson we were taught then.

A few parties from a distance were in to see the incubator yesterday; it is due to-day, but a few chicks, about 25, were out then and lots of eggs chipped. One of the party asked "who pips the shell for them; as there is no hen to do it?" We informed the questioner that the chicks were not assisted in that way at all, by their maternal parent. "What!!" said our visitor "the hen don't chip the shell, well, I always thought they *had* to do it; and I was just wondering how it could be done in the incubator, and I was thinking, if you did it, *how clever you must be, to chip it right on the beak every time.*" Well I had given myself away and before a lady, too; that interested fair one might have departed with the idea that your humble servant was really as clever as the best old "Biddy" that (n)ever chipped an egg. It is at times like these we wish for the "news-paper ears," referred to by "Mark Twain" so that we could fold them over our face to hide our discomfiture. That lady though "found out some-

thing." And this is the way 'every one "finds out things" to their greatest advantage in poultry keeping, viz., by solid practical experience, there is no more "Royal Road" to it, than there is "to fortune."

For the POULTRY WEEKLY.

#### More Hints About Orphan Chicks.

**D**OUBTLESS many would like to know how to supply artificial heat to the chickens. It is comparatively easy. First remember that heat only is necessary, and flannel, wool and such things to nestle under are entirely superfluous.

Take an oblong boiler about six inches deep, and of area sufficient to cover say 25 chicks, and enclose it in a four-sided box, propping it on slats nailed inside, at such a height that chickens of four weeks cannot touch it with their heads. Into this fit first a tube to fill by, reaching an inch above the top of the box; second, two tubes in one end, one about four inches above the other and coming out of the end of the box about three inches. I will explain the purpose of these later. Now pack chaff, sawdust, or best of all asbestos, tightly on top of the boiler and nail on the lid. In one of the sides of the box cut two or three holes about an inch from the ground and large enough to allow a good sized chicken to pass through. Shelter these holes with strips of felt or thick flannel cut 1½ in. wide and nailed at the top so as to overlap each other about half an inch. Fit a thin board so that it will slide loosely under the boiler. Cover it with chaff about one inch deep, set the brooder on top and it is complete.

Now for the heat which may be applied in two ways. First way. Fill the boiler with hot water which must be renewed pretty frequently, drawing off from the top one of the two end tubes as much as will run freely, and then filling up with boiling water. Second way. Take an ordinary tin fruit can and conduct the two end tubes into it, one at the top and one at the bottom. Solder them in tightly and also solder up the top and then set a lantern under it so that a continual circulation of hot water may be kept up. If the brooder is to stand out of doors a slight change in the boiler must be made and the lantern made on the hurricane principle.

The first way is most trouble but easiest to make. It answers fairly well. The second way needs a mechanic to fit the lantern and therefore is more expensive but is far the best. If used on the first plan the second end tube is to empty the brooder when out of use, and is not absolutely necessary.

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P.S. The heat should be tested with a thermometer about the height of the chicks' backs.