eggs commence to hatch, but some three weeks before this occurs a conspicuous squarish white patch is visible on one side of the egg. This represents the accumulated excreted matter of embryonic development.

The Larvæ, or Seed-ticks.

From the eggs, now left as empty transparent horn-coloured shells, there swarm the very minute young ticks in the first stage of their active existence. In this stage they are known as "larvæ," or "seed-ticks." They are rather less than $\frac{1}{50}$ in. in length and nearly as broad, but very flat, and, in fact, before their first feed, almost transparent. The pale-yellowish almost whitish colour in which they first appear soon deepens to a darker brown, and the seed-ticks, which may be distinguished at once from all succeeding stages not only by their minute size but also by their possession of only *three* pairs of legs, proceed to swarm up the stems of grasses and herbage, by means of which they can clamber on to the hides of cattle or other stock. On such vantage-points as the tall seed-heads of paspalum they will remain day and night until a suitable host should happen to brush past.

Once on the host the seed-ticks soon thrust in their mouth-parts and commence to feed upon the blood and lymph. In the early stages these minute ticks may be present in incredible numbers on a beast and yet be entirely overlooked. Even when recognized as ticks it is quite a frequent occurrence for their connection with the cattle-tick to be stoutly denied. The writer has known the larval ticks and those of the succeeding or nymph stage to be distinguished as "horse-ticks." The bestowal of this name is worthy of a little digression. Larval ticks so soon as or a very few hours after they have pierced the skin of a horse raise a small lump, which shows at a considerable distance, by interrupting the sheen of the coat, though the minute seed-tick itself, each one seated on such a lump, is invisibly hidden beneath the hair. Even on parting the hair over a lump there are ten chances to one against the larva being seen, since the lymphatic exudate caused even by this minute irritation soon more or less hides the tick from view beneath a covering of scurf, to the scales of which the tick itself bears a considerable resemblance. On cattle, on the other hand, apparently no lumps are formed, and as a result an infestation of larvæ of as many as six to the square inch over a large part of the animal may be entirely overlooked. The farmer is not in the habit of focussing his attention on objects so small as an unfed larval tick, and he appears to have some difficulty in seeing them when they are actually pointed out to him. Whenever the horses of a district show a plentiful supply of lumps due to larvæ it may be safely assumed that the cattle of the same district have an even greater number of larvæ upon them. It must be emphasized that the larvæ have no preference whatever for horses, but rather for cattle, but they are seen, even in extremely limited numbers, on the former, while on the latter they are almost always totally overlooked.

In a few days the larvæ begin to show an increase in size and to assume a dark blue-black colour, causing them to resemble, when fully fed, small beads of writing-ink among the white hairs of light-coloured hosts. This process of engorgement, by which the thin larval skin