the potato disease, on the potato. The germ, once settled on the leaf, waits for the necessary supply of warmth and moisture, and then sends out very fine roots Fig. 7

GERMS.

A, Ripe germ.

B, Germ b-ginni g to sprout.

- C. Contents of germ formed nto spores. D. Spores escaping.
- Magnified 4. 0 times.

which find their way into the interior of the leaf, as above stated. As soon as the root has entered the leaf, it finds there plenty of food, and rapidly grows and spreads in every direction. (Fig. 5 and 6) It attacks the underside of the leaf, blackens the part attached, and makes it look as if it had been frost bitten. (Fig. 1 and 2) The disease may be known by the dark blotches which first appear at the tips of the leaves, (Fig. 2) having a white border next to the yet healthy leaf. If this white edge or border were examined with a microscope of sufficient power, it would be found to consist of very fine threads bearing the egg shaped germs, before alluded to; these germs or mould on the outside of the leaf are scattering in the air, (Fig. 9) while the roots are pushing their way all through the potato plant, passing down the stem into the tuber. It now consumes the starch, breaks up the substance of the potato, and causes decay.



- Square piece cut out of a potato leaf, magnified 200 times, showing two germs witch have sprouted and pushed their roots into the leaf through two of the breath ng pores of the leaf.
- and possed their roots into the test through two of the breath ng porces of the leaf. B, the green cells of the interior of the leaf. C, skin of the under surface of the leaf. D, breathing porces on the under surface of the leaf. E, roots of the fungus. G G, germs sprouting.

The thick skin of the tuber prevents the fungus from sending out its germ-bearing mould, but as the growth of the plant does not depend upon access of air, it is vigorous within the potato, until it has used up all the food it contained, and changed it into a mass of corrupt pulp. (Fig. 10 and 11)

Another way the disease is propagated is by planting tubers which are partially diseased; in that case the contagion spreads throughout the plant of the succeeding crop and destroys it in the same manner as if it had been communicated through the leaves.

This destructive potato disease, although not yet overcome, has been very much modified in its frequency and devastating effects by various means; one, is by raising new varieties, some of which, especially the "Early Rose," and all its family, have proved less liable to contagion;