Fig. 30 shows a section of one of the leaf spots, and fig. 31 a section of the skin of an apple with scab bursting up through the cuticle, or outer skin, both magnified 200 diameters. The mycelium, or plant body of the fungus, resembles a dense mass of tissue composed of dark-brown walled cells. These do not penetrate

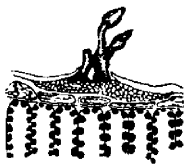

FIG. 30.

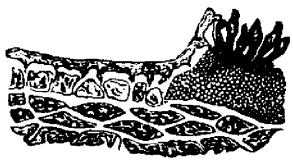

FIG. 31.

the cuticle, or inner skin, but grow between it and the epidermis, or outer skin, which they soon burst open, and send up brown threads on the ends of which are borne the spores for the propagation of the fungus.

These latter are so tiny, that it would require 3,200, side by side, to reach an inch. They germinate in moisture at a temperature of 50° F., in about eight hours; and the germ tubes have power to penetrate healthy skin and thus quickly spread the disease.

FIG. 32.—Spores of fungus of Apple Scab. One germinating.

But our readers will be more interested in the success attending the use of remedies, than in the life history of the fungus.

Prof. Scribner in his report of 1887, recommended spraying the trees in early spring before the buds begun to expand, with sulphate of iron, 4 lbs. to 4 gals. of water; then, after fruit is set, with Bordeaux mixture. More recently, Prof. Taft and Prof. Trelease, have highly commended the use of ammoniacal copper carbonate, as has been fully stated in our pages.

This spring, in the last report of the Ohio Experimental Station, we observe that Prof. Green asserts that the most satisfactory of the copper compounds for destroying apple scab, with regard to cost, convenience and effectiveness, is the dilute Bordeaux mixture. The method of preparing is as follows:—Dissolve four pounds copper sulphate in two gallons of hot water; add sufficient water to cool it. Slake four pounds of quick lime, add water to make a milk of lime. Pour into copper sulphate through seive to dissolve lime the better. Dilute to fifty gallons.

One advantage of this mixture is that Paris green may be used with it, and no injury to the foliage results. The effect should be bright, clean, healthy foliage and fruit, as well as comparative freedom from curculio and codling moth.

In the *Journal of Mycology*, Vol. VII., No. 1, Prof. Goff, of Madison, Wisconsin, reports his experiments in 1891 in treating apple-scab. He used, chiefly, copper carbonate (1) in suspension, using one ounce to 12 gallons of water, and (2) dissolved in ammonia, one ounce to 25 gallons of water. In the latter case the ounce of salt was first dissolved in a quart of ammonia.