

prohibition no danger of the kind to the community would be possible.

Among those professional men who advocate preservatives in moderation is Sir Lauder Brunton, who sensibly claims that because quickly decomposing foods such as milk are dangerous by engendering toxins that act deleteriously in the body, small portions of food preservatives that have hindered decomposition are not so bad as the untouched stale products. On the other hand, some analysts and bacteriologists assert that while boric acid does prevent the multiplication of most bacteria, the pathogenic specimens are enabled the better to multiply through the absence of competition with other species.

We have to remember in this connection that the standard of quality in the chemical would probably vary among different makers; as it is difficult to ensure that every sample of boric acid shall be of exactly the same degree of purity as is expected. These substances are very liable to changes and effects due to heat, cold, dampness, and other factors. If you take copies of a prescription to a dozen different chemists on any one day for preparation, you will find very noticeable unavoidable variations in the medicines.

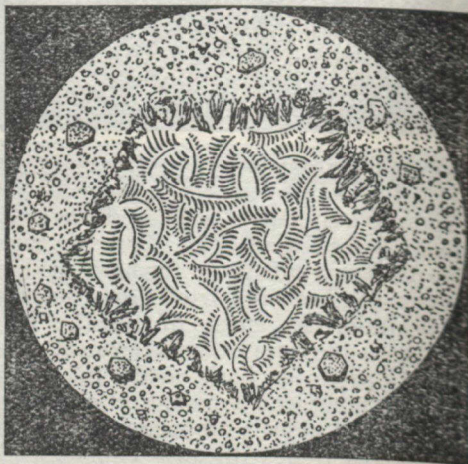
Dr. Wiley conducted some experiments on human subjects, on behalf of the U.S.A. Government, to test the effects of boric acid. From four to five grains in capsules were daily served to selected men, with the result that they eventually suffered from loss of appetite; and various illnesses. No man could endure more than three grains daily without exhibiting some form of suffering; and it was concluded that half a grain would be too much for consumption, as the substance is cumulative in effect.

As a set-off against these pronouncements, Libreich, the expert scientist, asserts during a strong criticism of Wiley's experiments, and after having had access to the building in which they were demonstrated, and examining the various documents concerned, that: "No injurious effects were produced by the administration of the boron preservatives." And also "the administration of the preservatives borax and boric acid in capsules allows of no conclusions as to the effects of borates when added to food." Most decidedly, a substance that has been thoroughly incorporated with another is far better adapted for assimilation than the same thing in a lump.

One advantage (?) accruing from the use of boric acid is that it is tasteless, unlike salt, which is the accepted, unchallenged preservative. It has been proved that two lots of butter, with which were mixed respectively 1 per cent. of boric acid and 6 per cent. of salt, resulted at the end of nine months in the last-mentioned becoming quite rancid and unfit for food, whereas the first—or boric compound—remained fresh and palatable the whole time.

The disadvantages (?) are that it is not a component of the human body. Nor are the minerals nitre or saltpetre, table salt, vinegar, and other substances passed by analysts. That it injures digestion—so do the things that have just been referred to.

Quite recently, the Public Analyst of Kensington, England, Colonel Charles E. Cassal, whose experience and opinion are



No. 4—The above magnified $\frac{1}{16}$ in. pinhole shows the appearance of sublimed boric acid—that is, condensed vapour.

of exceptional worth, declared emphatically that boric acid should be "absolutely prohibited"; and he is backed up by the food expert, Mr. Charles Hyatt-Woolf, the editor of *Popular Science Siftings*, whose books on food and food frauds have a wide reputation.

While boric acid arrests decomposition, it also as readily conceals it when it has already commenced, or proceeded to a certain stage; so that what appears to be quite fresh cream or butter may actually be bad, and possess the double vice of being partly decomposed, and of containing a risky preservative.

Endeavors have lately been made to prove that boric acid can quite naturally enter milk through the cow feeding on par-