of the crystal cells, the walls of which are thickened at the corners. Porous and striated stone cells are seen in long and cross-section view. Masses of irregular cortical parenchyma cells and five- to six-angled yellow and reddish brown cells of the bark parenchyma are easily distinguished.

Medullary rays crossed by crystal-bearing fibers are seen in the form of broken fragments. Many circular red and yellow resin masses present a spongy appearance. Prismatic crystals are found free in the field.

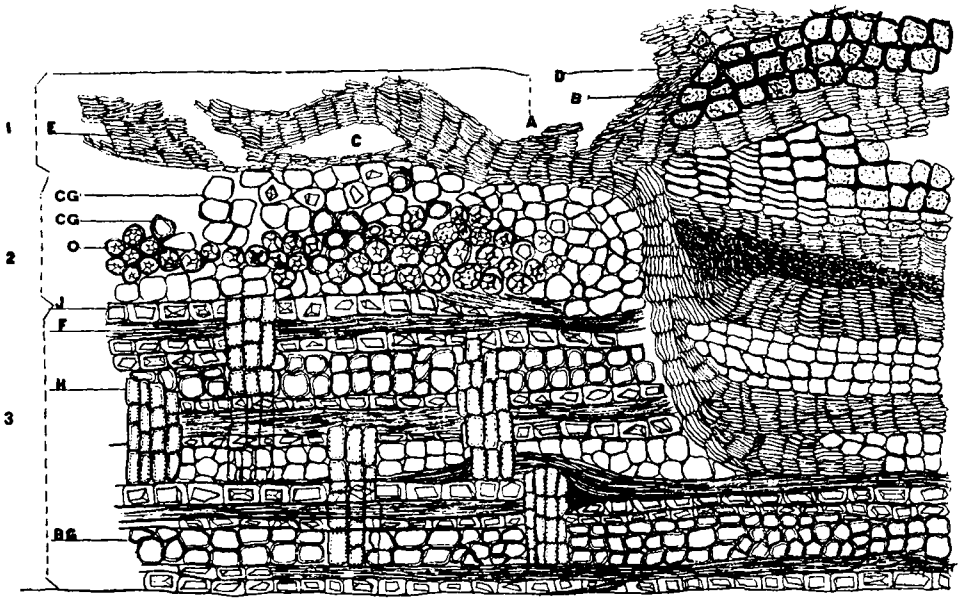

FIG. 3.—CROSS-SECTION OF VILCA BARK.

1—Outer bark: A, Lenticel; B, Thickened walled cork with tannin; C, Secretion cavity; D, Cork tissue; E, Periderm.
2—Middle bark: CG, Cortical parenchyma; F, Fibers; O, Stone cells; J, Crystal-bearing fibers.
3—Inner bark: F, Fibers; H, Medullary rays: BG, Bark parenchyma.

The powder prepared from the warty projections shows them to consist largely of cork and resin cells. Prismatic crystals, stone cells, cortical and bark parenchyma are found in smaller amounts than in the bark proper. Irregular pieces of siliceous material are present in considerable quantity.

The bark contains a large percentage of tannin, calcium oxalate and resin.

BOTANICAL DRUG RESOURCES OF NEW ENGLAND.

BY E. E. STANFORD.

The New England States furnish a considerable number of native plants which were largely collected for medicinal use in the colonial and early national periods but which now rarely enter commerce from this source. Many are no longer extensively used in commercial or prescriptive medicine, and those which are in demand can usually be more cheaply supplied by Southern Appalachian regions.

Increases in price and an influx of cheaper foreign labor into the rural districts suggest the possibility of commercializing at least some products. *Veratrum viride* and *Aspidium marginale* are examples of such materials. Drug cultivation appears scarcely to have been attempted here, though agricultural conditions suggest worth-while possibilities for a few products.