

tinctions as outlined above were seen to be well defined. In the tangential-longitudinal section I found the ray in *Rhamnus Purshiana* to be from one to five cells in width, commonly three or four; in *Rhamnus Californica* the ray in from one to seven cells wide, commonly four or five. In the former the cells are pretty evenly arranged in lines, and are of about the same size; while in the latter, when more than four cells wide, the cells are irregularly arranged in the center of the ray and of variable size.

Perhaps it will not be amiss before dismissing the subject to make a few remarks upon the cultivation of *Rhamnus Purshiana* in Michigan. The plant, according to the *Kew Bulletin*, has been, for several years, cultivated with success in Ireland. In 1907, at my request, Messrs. Parke, Davis & Co. procured about eighty seedlings of *Rhamnus Purshiana* from Oregon. These were transplanted in October of that year on the lawn in front of the laboratory. The trees are not protected with winter buds so it was a question as to whether or not they would withstand the rigor of our climate. In order to make a thorough test they were planted near the Detroit river and ran inland or in a line at right angles with the river bank. Most of them would be directly exposed to the freezing winds from the icy river while a few would be more or less protected by near-by buildings. The first winter the transplanted seedlings were well protected by wrappings of straw and sacks while the ground was covered with plenty of straw; in the following winters they were not protected. During the six years since they were planted about eighty-five percent have died or all that were not protected from the cold winds from the river. The more vigorous trees are about 12 feet in height and 4 inches in diameter at the ground. They have blossomed this year for the first time but no fruit has developed. The plants were planted in made ground consisting mostly of blue clay and some greyish clayey loam. The inference is that *Rhamnus Purshiana* can be successfully cultivated in Michigan in situations where it can be protected from the direct blasts of the cold icy winds.

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#### NOTE ON THE ACIDITY OF HYDROGEN PEROXIDE SOLUTION.

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The acidity of solutions of hydrogen peroxide may be due to one or more acids, free phosphoric, sulphuric, or hydrochloric acid usually being present. To determine quantitatively how much free acid is present has been studied by many, and with varying success. The choice of an indicator for the titration must be made, and it has generally been attempted to select one indicator suitable for all cases. Of course the amount of free acid in solution of hydrogen peroxide for general medicinal use does not need to be controlled very closely, so perhaps one indicator for all acids is sufficient. But by following out a suggestion published

by the writer some years ago, and lately elaborated, we can easily select an indicator suitable to the acid to be titrated.

It was advised that one could decompose the hydrogen peroxide by means of platinum metal, subsequently titrating the acid remaining. This procedure has now assumed this shape. Place the customary 25 cc. sample of peroxide and an excess of decinormal solution of sodium hydroxide in a long test tube (about 8 or 10 inches long). Add about three grams of platinized pumice stone and place the tube in a steam bath for about 15 minutes, or until the peroxide is all decomposed. The heat and the shape of the container (long and narrow) hasten the reaction. It only remains to pour the remaining liquid into a beaker or flask and complete the titration of the acid that was in the peroxide, now in simple aqueous solution as a sodium salt. In our hands an excess of standardized acid is generally added, followed by boiling and subsequent titration with decinormal alkali. Any indicator suitable to the acid and conditions at hand can be used. Experiments show that it is easy by the above method to so completely destroy the peroxide that no reduction of permanganate can be obtained from the resulting liquid. The pumice stone is easily prepared by soaking the stone in solution of platinic chloride, then igniting, then re-soaking and re-igniting. It is used over and over.

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#### THE EDUCATION OF THE PUBLIC.

The education of the public in matters pharmaceutical is being attempted in various states, with the object of putting the druggist right in the eyes of the public. During the past decade certain lay newspapers have carried on campaigns against the proprietary medicine business, with the admitted object of destroying it. Recently there appeared in the "Ladies' Home Journal" an article entitled "The Meanest Business in the World—Cheating the Sick," wherein remedies for women's ailments, soothing-syrups, and headache and cough preparations were condemned as a class. Unfortunately, the writer made his attack too inclusive, stating that such medicines (excluding the first named) "all depend for their effect upon alcohol, and one or all of the stupefying drugs—opium, morphine, or chloroform." The writer went on to say that "used to excess they kill outright; used even in moderation, they gradually become a necessity to the child's system, and before the parents realize the danger they have on their hands a victim of the drug habit." Such misstatements are freely copied by the newspapers throughout the country, with the result that an unmerited slur is cast upon the drug business. In order to combat this influence, the Wisconsin State Pharmaceutical Association has formed a publicity bureau, charged with the duty of disseminating among the country papers short articles that will set the druggist right in the public eye. The time has come when the public must be told that the maker of ready-made medicine is not necessarily a faker and a charlatan.—American Letter in *The Chemist and Druggist* (London).