

the use of snuff, in itself the cheapest and easiest used powder, unless its subsequent effect on the plant is injurious. One ounce of Scotch snuff administered by a pepper castor will go a long way in a green-house, and any one who will try it upon a bud or young shoot covered with the well known pest will have at least the satisfaction of seeing the whole force of the enemy strewn on the surface of the pot in about five minutes, unless you decide that it is dangerous.—*London Gardener's Chronicle*.

**GATHERING FRUIT BY MACHINERY.**—William Doty, of South Hartford, New York, has invented an apparatus for gathering and sorting apples. They are shaken from the tree by a pole made to grasp the limb. As they fall they are caught by an inclined cloth, stretched on a frame, through an opening in which they pass to a grating that retains the larger apples, which are drawn through a spout into bags or barrels. The smaller apples drop gently on a lower grating—through which the sticks, leaves, and other foreign substances can pass and allow the apples to roll down a spout. Should the apple not be very regular in its form, it will not roll from the grating, but will stay upon it to be removed by hand—thus the apparatus will only deliver such apples as are marketable, and divide them into sizes fit for the same. This invention will interest our fruit cultivators, as it is one of the most difficult of things to gather apples so as to have them fit for long keeping.

---

### GEOGRAPHY OF PLANTS.

Wonderful and beautiful is the variety which marks the vegetable world! Were all vegetation confined to one single species, as the mullein, the dog-fennel, or even the beautiful and useful wheat plant, how soon the mind would clog of their charms and nervously turn away for some new plant whose other form of stem, of foliage, or flower might bring relief and a new joy to the weary eye. But such it is not. Nay, on the contrary, so great is the multitude of varieties that botanists have not yet been able to number them—thousands and hundreds of thousands have already stood for their portraits, and every day rewards the eager search of some zealous naturalist with a new discovery. And then the extent of this variety! From the dear little blue-bell on rocky crag, far from the haunts of men, to the earth-screening Banyan and grand old Baobab whose germs began to swell under the sunlight of the first roseate morn, and whose grateful shadows have been lovingly spread ever since for the laughing sports and idolatrous worship of untold generations, how infinite the variety of color, form, and use!

But not all of these belong to the same locality; as all classes and families of men are not to be found in any one country—except America! Nevertheless the distribution is not of chance but had its origin in certain necessities of soil and climate and in the special wants of the people and animals destined for the various portions of the earth.

If the Creator had made the earth perfectly even on its surface, with the water and land arranged in alternate belts, and perfectly homogeneous in its chemical constitution, then the climatology of the world would have been comparatively simple and the Geography of Plants a mere question of latitude or longitude. It so happens, however, that neither one of these conditions is true; for so far from being perfectly smooth and even surfaced, the earth is exceedingly rough and irregular in the distribution of land and water; and instead of homogeneity, there is no single handful of its substance of one kind, unless it be here and there a lump of one of a few metals which occur pure. Everywhere there is the greatest diversity, both in the general configuration, and in the chemical elements of which the earth is composed; no two square miles of the earth are exactly alike, either in the character of the surface or the nature of their constituents.

It must be apparent, therefore, that the problem of distribution is complex and difficult, requiring in order to its complete solution a perfect knowledge of Geology and Mineralogy, Botany, Chemistry, Physical Geography and Meteorology. Accordingly,