Garden and Forest.

In an act which has just passed both Houses of Congress it is provided that any person who shall willfully set fire to any timber, brush or grass on the public domain, or shall allow such fire to burn unattended near inflammable material, shall be guilty of misdemeanor under the laws of the United States, for which he can be fined not more than $500 or be imprisoned for not more than two years, upon conviction. Section 2 provides that all persons who build camp-fires on any other fires near timber or other inflammable material on the public domain shall totally extinguish them before they break camp, and the failure to do this will also be a misdemeanor subject to fine or imprisonment, or both, upon conviction. This in a court of the United States. With a view to encourage prosecution under this act it is provided that the fines collected shall be paid into the Public School Fund of the county where the offense is committed. It is not probable that this law will at once be enforced with any great vigor, but it is an admirable thing to have on the statute book, for as public opinion becomes educated, and especially as the people in the neighborhood of our great western forests begin to appreciate their value as they ought, this law will have behind it an energy of popular approval which will effectively enforce it. When the great Teak forests of India first came under the control of the British Government every one felt at liberty to despise and burn them, but now the people who live in these forests are their staunchest defenders, and there is no doubt that a few years hence the people who visit our great western forests as tourists for pleasure, and the people who spend their lives near them, will all unite in cherishing them as among the most useful and beautiful of our national possessions.

The Chemise World.—II.

Many northerly slopes in the Chemise region would be in open woods but for the recurrent brush fires. It is a repetition of the conditions in the prairie states, where the grass fires kept trees from getting out of the scrub state. Nearly all the bushes in the Chemise region have great vitality and sprout vigorously after each burning. Sometimes a longer period than usual elapses between fires, and the heavy brush on the north hillsides has time to go through the thinning process. First, the Chemise, then the Ceanothus die out, and the weaker sprouts give up the battle. The next fire finds an open wood of low trees with insufficient fuel to make a fire to scald the bark of the vigorous saplings, but it clears the debris and makes them safe for the future. Douglas Spruce may come in, and the soil is strong enough for it to thrive. If meat moisture is present, and the trees attain a good size. On range where fires are kept out, this process from chappel to small timber is going on rapidly. Conifers are not so fortunate in the battle. Douglas Spruce is found throughout the Chemise region in scattering trees or small groves, usually on rugged hillsides close to watercourses. The thin bark of young trees of the Douglas Spruce makes it as susceptible to fire as the Pines, and the few now living are survivors. On large trees the bark is thick. These sometimes withstand many conflagrations, but at last succumb to an unusually hot fire, and, falling, expose their neighbors, until the little grove is wiped out. Nature has always kept these great slopes well clothed with a variety of trees. In twenty years, with a moderate chance, much of the brush land would be covered with timber of constantly increasing value. The white man is not the only offender, and the Indian for many years had fired the brush periodically.

The problem of the future forest is simple here; he need only keep out the fires, and a forest would soon be established. The soil is richer, in many places covered with heavy brush, than in the present woodland. The thinner growth on poor lands was spared by fire, while the rank growth on rich lands invited the flames. Species which in some localities develop into grand trees, in others are found in the form of low brush. This is accounted for in some instances by poverty of soil; in others, hardiness or the nature of the soil is the cause. Above one out of ten, the dense cope of is formed of sprouts from charred stumps. These have ample vitality, if left alone, send the sprouts up into trees, and with nature's training they would make stately specimens. The young trees, not so common as when growing in a dense forest, reach upward for the light, and are well clothed and symmetrical.

Castanopsis chrysophylla, the Chestnut Oak or Western Chinquapin, is often found in dense copes in the higher portion of the range east of Uintah. In the Chemise region it is seldom over five feet in height and fruits at that size. The bark is not unlike that of the eastern Chestnut, the nuts small and thick-shelled. Just across the valley to the west it again occurs in the dense chapparal growth, and between the periodicals brush fires reaches a height of from twenty to forty feet. It is, however, in the Redwood region that it is to be seen at its best. On the high ridges in the Redwoods it often grows from eighty to one hundred and twenty-five feet high, straight as a Pine, and branchless for two-thirds its height, with a magnificent full head. Such a monarch of the woods stands near the public road a few miles above Willetts, in this county, and was visited and described by that pioneer botanist, the late Dr. Kellogg, who considered it "a king of its kind." The same chrysophylla is due to the yellow powder underneath the charred stumps. In a breeze the leaves alternately present a dark green and golden side with a beautiful effect. The Chestnut Oak follows the Coast Range from Monterey to Oregon.

Another tree which is common in a shrubby form in the Chemise region is the California Live Oak, Quercus chrysolepis. I will reserve for a future time a description of it as it grows at its best. It is common as a large bush or low tree on the north hillsides, while on some gravelly hillslopes it forms a dense low growth. All of these shrubby or low-growing forms have leaves as green and prickly as an English Holly, while on old trees the leaves are entire.

Quercus Douglasii is common in the Chemise region in the drier places. The California Black Oak, Q. California, is, however, the most widely distributed tree in this region. Little clumps of it are seen everywhere, and on all shaded hillsides its beautiful green foliage is conspicuous. Its growth is slow, and it is most common where they are in less danger from fire. The common Scrub Oak here is Q. dumosa, var. bullata, which seldom exceeds twenty feet in height. Madroño, too, is common, but does not often reach the fruting stage. Madroño, Arbutus Menziesii, has a very smooth, glossy brown bark, and the shed annually. This tree grows rapidly and sprouts freely, but naturally suffers more from fire than almost any other tree. Utah, Calif.

The Arrangement of Flowers.—I. SHORT-STEMMED FLOWERS.

The many short-stemmed flowers in our gardens are difficult to arrange satisfactorily for decoration. After many efforts I began to use small and shallow dishes, and flower arrangements became a new pleasure and delight. In six small crescent-shaped glass dishes known years ago as "bone" plates, a layer of wet spongo moss is placed, and they are filled with water. In an early morning visit to the garden I gather into a large, round, flat basket, that probably was originally some Japanese farmer's shade, great velvety panies that need to be picked from the plants blooming through the summer. The plants in one bed of Sweet Alyssum, Alyssum Aurinunculiflorum, flower so low that the little, thick, white heads are hardly three inches high, and these I cut off close to the ground. These little stemless flowers have an unpromising look, but the succers and moss provide a suitable setting. If the dining-table is long the dishes are placed end to end the