Pruning and Care of Ornamental Trees and Shrubs
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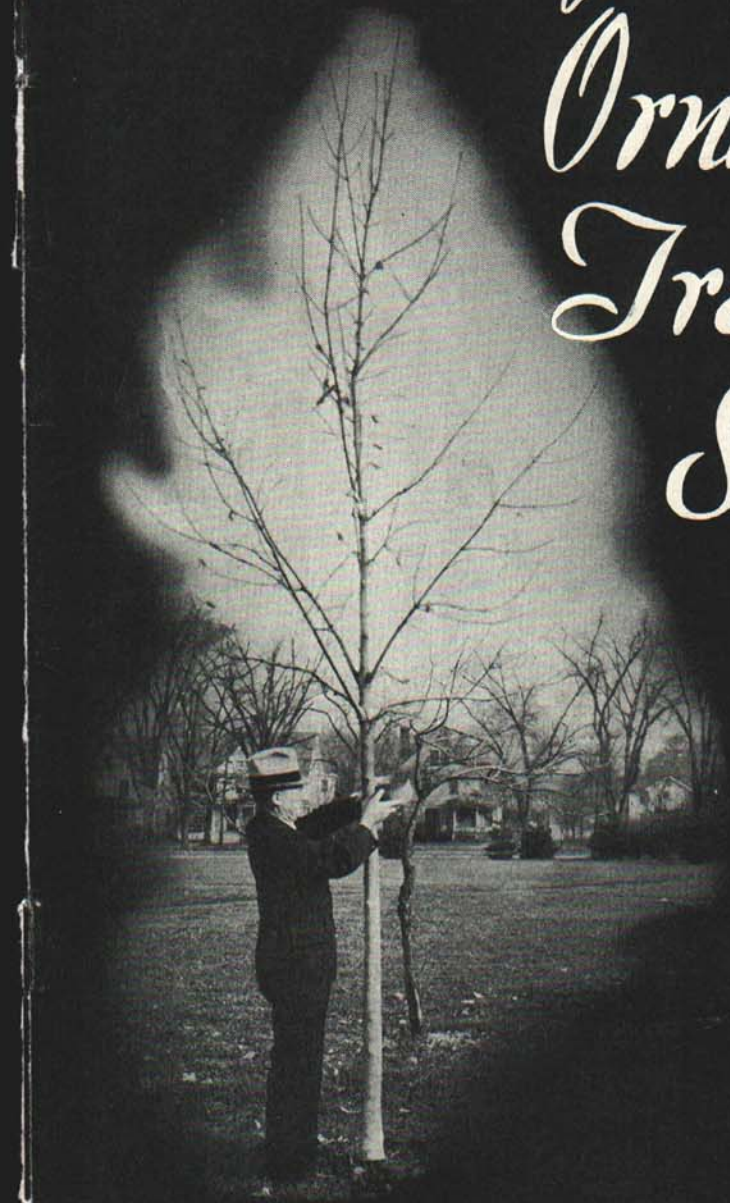

Michigan State College, Extension Division
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Pruning and Care of Ornamental Woody Plants*

O. I. GREGG

Every home property can be made more attractive by the proper use of trees, shrubs, and flowers. These plants, however, must be cared for properly to keep them looking well.

Pruning is a yearly chore on most shrubs, but pruning shears improperly used may do much more harm than good unless the characteristic growth and blooming habits of each kind of plant are known.

The main reasons for pruning ornamental woody plants are:

1. *To balance the top with the root system at time of transplanting.*
2. *To remove dead, injured, diseased or weak wood which decrease the beauty of the plant.*
3. *To improve or modify the form of the plant.*
4. *To improve the size and quality of the flowers.*

PRUNING AT TIME OF SETTING THE PLANTS

Deciduous Trees, Shrubs and Vines

Even with extreme care a large portion of the roots of a plant are destroyed when transplanted. Where native shrubs are used, a much larger percentage of the roots are left behind than with nursery grown plants. Usually most of the small feeding rootlets are destroyed, as well as some of the larger roots. The latter may also be bruised and broken.

First: Cut back these injured roots to sound wood.

Second: As the loss of roots reduces the ability of the plant to obtain water and nutrients from the soil, it is necessary to reduce the top accordingly. From the top most of the old canes are cut out and the new shoots pruned back to lateral buds. In this way at least one-half of the total top is removed.

Pruning the top severely (Fig. 1) serves to restore the balance between top and roots. As the season advances and balance is restored, both roots and top develop rapidly.

In pruning trees when transplanting the severity of the pruning depends on the size of the tree and the amount of soil kept on the roots. The size of trees which are transplanted without a ball of earth is

*This is a complete revision of Extension Bulletin No. 112, written by Kenneth Post, and published in 1931.

limited. In this case, the tops are pruned rather severely. Some of the branches are entirely removed and others are cut back to buds that will cause the branch, that may develop, to grow in the desired direction. The central leader if cut back at all, should be pruned much less severely than the branches. If the tree is transplanted with a ball of earth, less pruning of the top is necessary. Small branches may be cut out and the larger ones thinned without materially lessening the size of the top (Fig. 2). At least one-third of the buds can be removed in this way. The size of the ball of earth should be in proportion to the diameter of the trunk. One foot diameter of ball of earth to one inch of diameter of tree is about right for most deciduous trees. Early

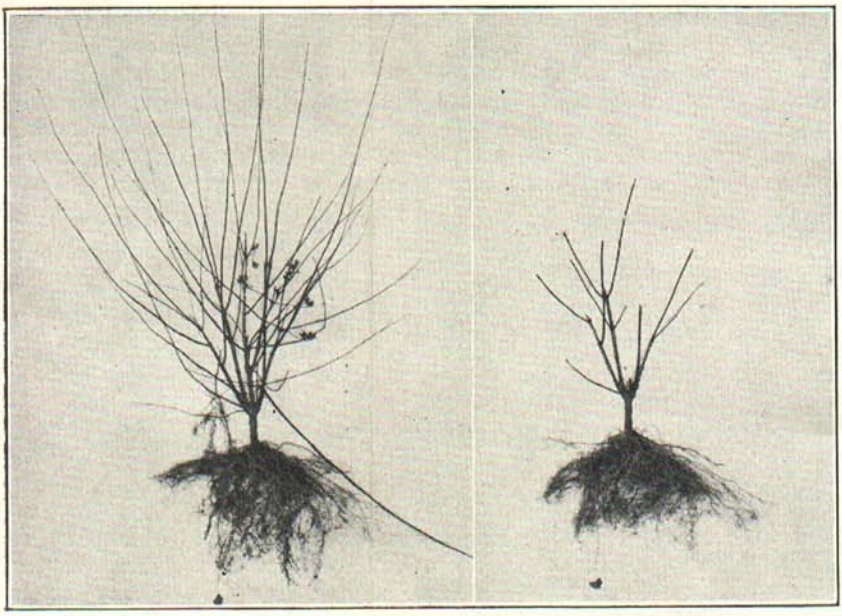

Fig. 1. Philadelphus as taken from the nursery row (left) and properly pruned for planting (right).

spring planting in most parts of Michigan is preferable to late fall or winter. An exception to this rule is the White birch which is best transplanted as the leaf buds are about to burst. Transplanting trees over six inches in diameter should seldom be attempted with the apparatus commonly found on the farm.

Vines are pruned back very severely at time of transplanting to encourage a rapid growth from three or more buds.

Evergreens

All evergreens, to be of value, must retain a large proportion of their foliage. It is necessary, therefore, in transplanting evergreens to disturb their roots as little as possible so that water absorption may go

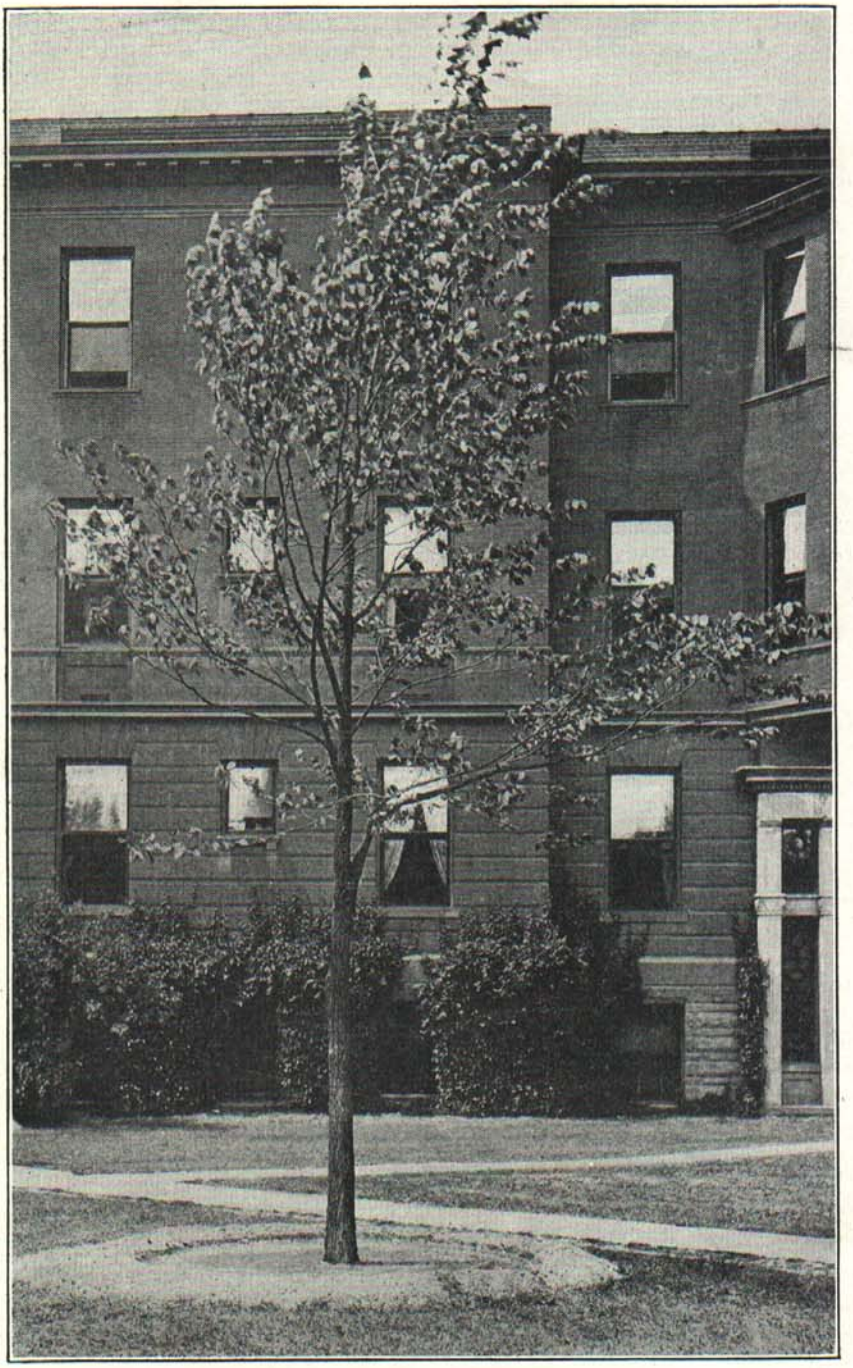

Fig. 2. A large elm successfully moved by freezing the ball of soil surrounding its roots. The soil has been dished around the tree to hold water.

on practically unchecked. Nurserymen accomplish this by root pruning one or more times previous to transplanting. This causes a compact and fibrous root system. It also causes a slower growth, which makes the tree more dense. At the time of sale the nurserymen "ball and burlap"—"B & B"—the trees. When planted in their proper location the burlap is allowed to remain (Fig. 3). Otherwise, the ball may break apart. The burlap does no harm as it soon decays. Good soil should be tamped about the plant.

Fig. 3. Pfitzer's Juniper balled and burlapped just as it came from the nursery.

FIRST SEASON CARE

In southern Michigan, late fall planting for most deciduous trees and shrubs is best. Otherwise, the earlier in the spring the better. With plenty of moisture in the soil, applying water at time of transplanting is unnecessary except that it helps settle the soil about the roots and starts root growth promptly. Evergreens should be well-watered. As spring advances, all newly transplanted plants should be watered unless rainfall is frequent and heavy enough to keep the ground moist. Where a plentiful water supply is not available the natural rainfall must be retained by having plenty of humus in the soil as well as by mulching several inches deep with peat or partially rotted strawy manure, spoiled hay, or similar vegetable matter.

Fresh, unrotted stable manure should not be used about evergreens.

Summer pruning the first season after planting is seldom necessary. Deciduous trees, however, may develop short leafy shoots from trunk or scaffold branches. They aid in the manufacture of food and do no harm for one or two years. If at that time they appear to be unnecessary they may be removed.

PRUNING TREES

The first step in pruning ornamental trees is to remove dead, diseased, and mechanically injured branches. All branches that are removed should be cut close to the trunk or larger limbs from which they have sprung. No stubs or even a "heel" should remain. A much larger wound caused by pruning close will heal more quickly than even a short stub with a smaller cut surface. Wounds more than one inch in diameter should be painted to prevent decay.

Suckers arising from the roots or water sprouts from around the crown should be promptly removed. As many ornamental trees are grafted at the surface of the soil or below, it is doubly important to remove suckers from below the graft; otherwise, they would soon rob the top of enough food to cause the weakening, or even death, of the original tree.

Each kind of tree has a characteristic growth that cannot be altered materially, such as changing the natural upward growth of a soft maple. If, however, a branch starts to make a wayward growth, balance can be restored by cutting back or removing it entirely.

Some trees, such as elms and maples, are pruned up high enough so one may walk and play beneath their branches, while many others, especially evergreens, are severely marred by this type of pruning. Such trees, then, should be planted in the first place so that they may mature without interfering with views, walks, or drives. On the other hand, ornamental evergreens used about foundations, such as junipers and arbor-vitaes, must be pruned regularly to keep them from getting out of proportion to the house. It should be done, though, so as to retain their natural form and still not make them appear to be pruned. Spruces, pines and similar evergreens cannot be pruned in this manner.

PRUNING VINES

Woody vines, such as the English Ivy or Virginia Creeper, that climb by means of rootlike "holdfasts," require little pruning. Dead or injured branches should be removed and likewise those that grow over places where they are not wanted.

Vines that climb by means of tendrils, as the grape, or that twine about some support, as bittersweet, likewise require comparatively little pruning. When they show a tendency to develop principally from the upper buds, leaving the base bare of foliage, the vine should be pruned back severely to force it to renew its top from some of the more basal latent buds. When this is done, it is better to cut the older stems to the ground and renew the top from some of the younger growths. This pruning can often be done more conveniently by removing the vine from its trellis and spreading it out on the ground.

PRUNING HEDGES

Hedges, to be of value as part of the landscaping about the home area, must be uniform, dense and kept well-pruned. To accomplish this, the hedge must grow in the sun or be uniformly shaded. Many people who start a hedge expect it to attain the height ultimately desired, within a year or two after planting and, therefore, allow it to grow to nearly that height before clipping. This causes a dense top growth and a thin growth at the base, which is difficult to overcome in later years. When the plants are set they should be cut to a uniform height of 6 or 8 inches. As the new growth attains a height of 6 or 8 inches it should be pruned back within 3 or 4 inches of the previous top. This may be done at least once more before the grow-

ing season is over. This is continued until the desired height is reached. By doing this, new shoots develop from lateral buds, and also from the latent buds on the older wood. As a result, the sides, when pruned in this manner, are as dense as the top.

PRUNING SHRUBS

Most deciduous shrubs send out strong vigorous shoots from near the base of the plant. The lateral growth from these stems the following year is less vigorous, and each succeeding year witnesses a further

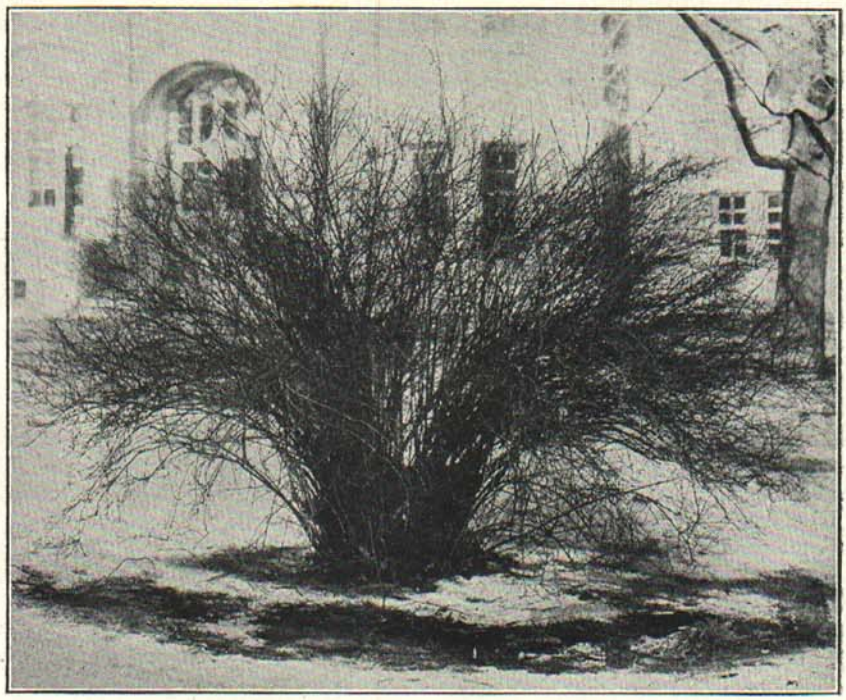

Fig. 4. A spiraea in need of pruning. Winter is an excellent time to determine which plants are in need of pruning.

decrease in vigor until the part dies out. In the meantime new and more vigorous shoots have sprung from near the crown of the plants and are replacing the older wood that has become weak or that has died out (Fig. 4).

A general rule in the pruning of shrubs is to remove all dead wood and all stems which have become too weak for satisfactory flower production, as well as those shoots that do not add to the attractiveness of the plant or are interfering with the development of younger, more vigorous and more valuable wood. This is essentially a thinning process, for the old stems should be cut off at the ground or just above

the point of origin of a strong vigorous lateral if the basal shoots are few. If the old weak branches that should be removed entirely are simply headed back, they will either die out or develop weak and practically worthless branches from their latent buds.

In addition to the thinning effected by a removal of old weak or dead wood, there is often occasion for some thinning out of the new shoots of the past season. In general, enough new wood should be left to replace the old that is cut away. If much more is retained, the brush is

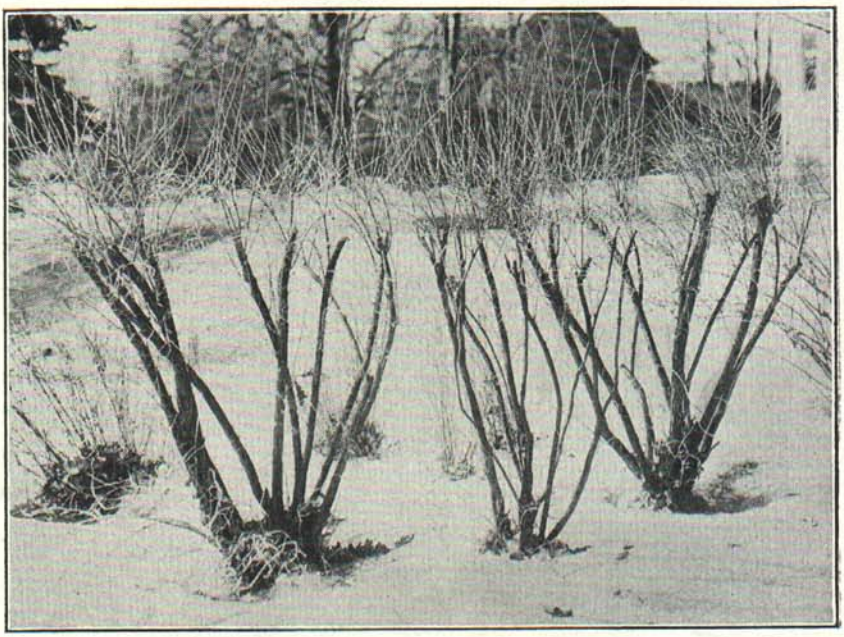

Fig. 5. Honeysuckles cut back at the top. Note the "witch's broom" effect. The beauty of these plants has been destroyed for a period of several years.

likely to become too thick and brushy. In thinning the new shoots, one should cut out those that are weak and that are not essential for the maintenance of general symmetry and attractiveness.

Any general heading back, shearing, or clipping of shrubs results in a thickening of the top, a development of a witch's broom effect (Fig. 5) by forcing into growth a few of the topmost buds. These make a stiffer and generally a taller growth than if left unpruned. Flower production also, is often reduced, for example, Spiraea Van Houttei (Fig. 6). If the proper shrubs are selected for a certain position in the first place, heading back is seldom or never required.

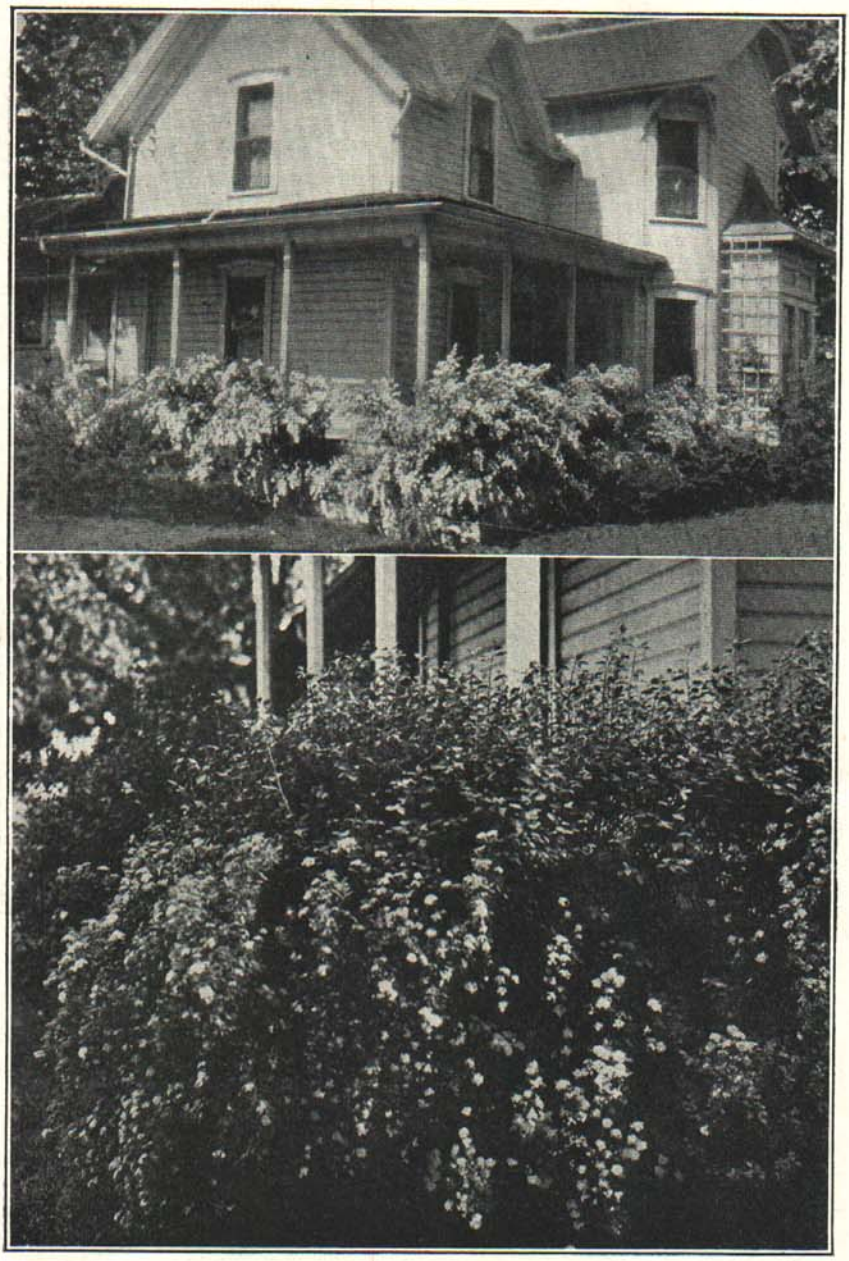

Fig. 6. A spiraea planting in flower in 1929 (upper) and a corner of the same planting sheared in the early spring of 1930 (lower). This is not a satisfactory method of pruning deciduous shrubs.

TIME TO PRUNE

The best time to prune different kinds of shrubs depends on their growing and flowering habits. Most shrubs fall under one of two rules. *First:* Shrubs that bloom from shoots of the current season should be pruned severely each spring. A good example is the Hills-of-snow hydrangea (Fig. 7). Each spring all shoots more than one year old

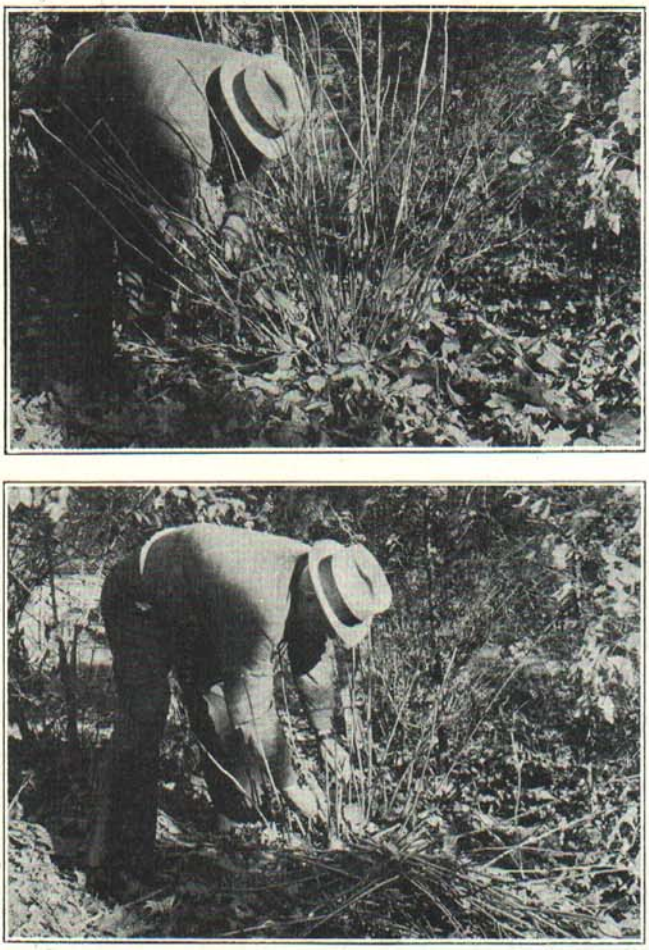

Fig. 7. Hills-of-snow hydrangea before and after pruning.

should be removed and the remainder, if too many, are thinned to about ten in number and pruned to eighteen inches or two feet. The lateral buds produce shoots that bloom earlier than those produced from the strong buds on or near the surface. This makes much larger individual blooms, and a much longer blooming period. Anthony Waterer spiraea

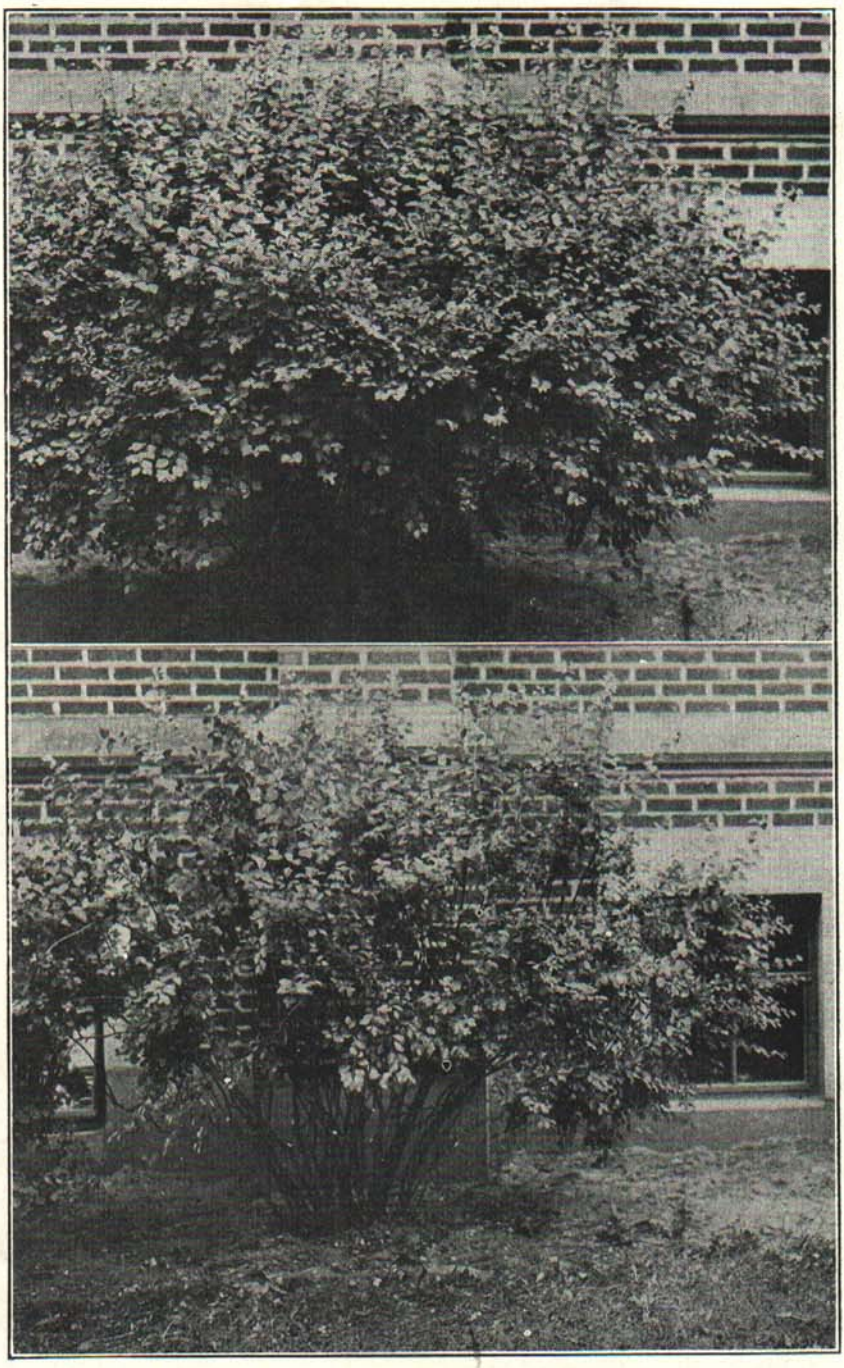

Fig. 8. Spiraea before pruning (upper) and after pruning (lower).

and Froebels spiraea are also pruned this way. Other shrubs that are pruned similarly except that a few two-or even three-year-old shoots are left are snowberry, coralberry and kerria. These also spread by suckers or as in the case of coralberry by runners. These should be allowed to remain, except where they interfere with other shrubs, to thicken up the area. *Second:* Shrubs that bloom from buds produced the previous season should be pruned directly after blooming. The common spiraea is one of the best examples of this. Honeysuckles, flowering almond, lilacs and similar shrubs are other examples.

Certain shrubs need some pruning in early spring as well as a light pruning after blooming. In this case, the pruning concerns mostly those that are somewhat unsightly during the winter months. Mock orange is an example.

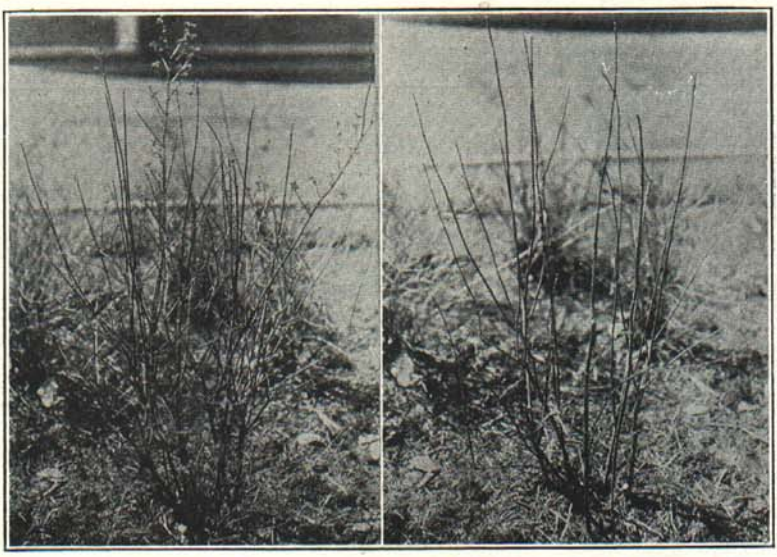

Fig. 9. Only old dead wood should be removed from certain shrubs in early spring. A Mock Orange before pruning (left) and after pruning (right).

Most shrubs require a gradual renewal. This can be done in most cases by pruning a fourth or fifth of the shrub away each year, pruning this proportion of the old shoots to the ground, either each spring or after blooming as the kind demands.

Many of the taller growing shrubs, even if pruned properly, appear as if they had been pruned up from the bottom. To bring them "down to the ground," such shrubs require lower growing shrubs planted in front. It is difficult to prune even spiraeas without making them appear open at the base (Fig. 8).

Other shrubs require little if any pruning for many years—for example, Siberian pea tree, forsythia, most lilacs, viburnums, althea, and redbud.

As the shrubs continue to grow about one's home area they become as friends and each kind is studied so that it can be cared for as it requires.

Fig. 10. Pruning causes the flowers to grow larger. A branch of Rhus typhina from a plant severely pruned (left) and a branch from a plant not pruned (right).

PRUNING ROSES

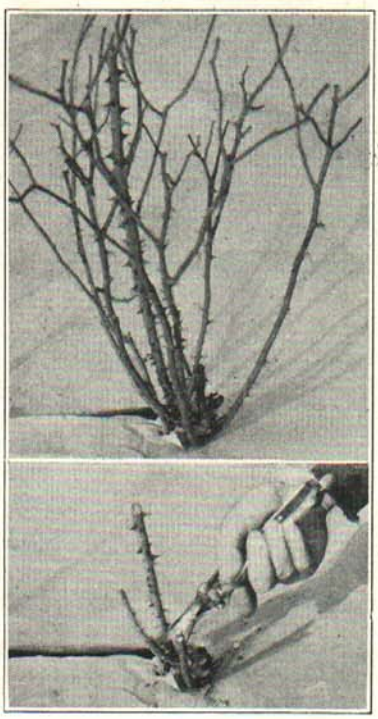

Fig. 11. A hybrid tea rose pruned in the early spring.

Rose pruning is somewhat different from that of other woody plants, in that, the type of flowers desired governs largely its severity. Severe pruning produces fewer and larger flowers than light pruning does. The several shoots should be cut to varying heights, their length depending largely on sturdiness. All cuts should be made to an outside bud to encourage a better spreading of the plant. When the pruning is completed the plant should be symmetrical. If the shoots are stronger on one side than on the other, symmetry can be promoted by pruning back part of them more severely than others and cutting to a bud that points in the direction of the weakest side.

The type of rose which is pruned should also be taken into consideration. Some require severe pruning, while others do better if pruned lightly or not at all.

Hybrid Perpetual roses should be pruned in early spring and cut back, until six to ten buds are left on each shoot. The vigor of the plant should govern the number of buds left.

Hybrid Teas should also be pruned in early spring. Besides the removal of all small growth, they should be cut back to three or four buds per shoot (Fig. 11).

Cutting roses from the plant in summer is essentially a pruning operation and more or less influences the character of the next crop. The flower stem should be cut so as to leave two or three nodes of new growth on the plant (Fig. 12). This will permit the development of laterals that will produce flowers later in the season.

Climbers should be pruned immediately after flowering. All stems which produced flowers that season should be removed (Figs. 13 and 14). This will allow the newer growth to develop for flowering the following year.

Provence rose, Moss, French Damask, and ramblers should be pruned in late March. They require little cutting back. Dead and weak wood should be removed.

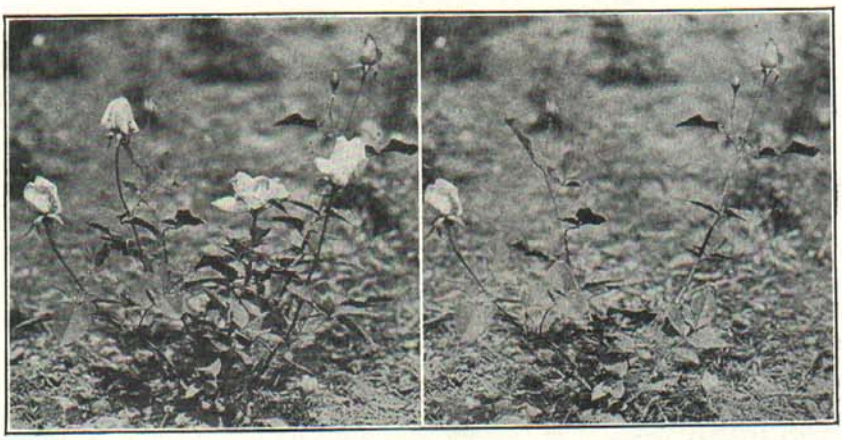

Fig. 12. A hybrid tea rose before removing the flowers (left) and after their removal (right).

Rugosa roses may not require pruning, depending on where and for what purpose they are grown. Often they are planted where shrubs 2½ to 3 feet high are desired. In such locations, pruning is necessary. They should be pruned in early spring. Pruning should consist of the thinning of old and weak wood and the removing of dead or diseased material. Suckers should be allowed to remain to help keep the area dense.

Suckering

Some trees and shrubs have a tendency to send out long, slender, vertical shoots along the branches. These are known as suckers. They draw nourishment from the more horizontal branches and in many cases detract from appearance. In such instances, they should be removed. Sometimes, especially in the case of shrubs, they can be retained to advantage and used to replace older growth that has become weak and has lost its value for flower production.

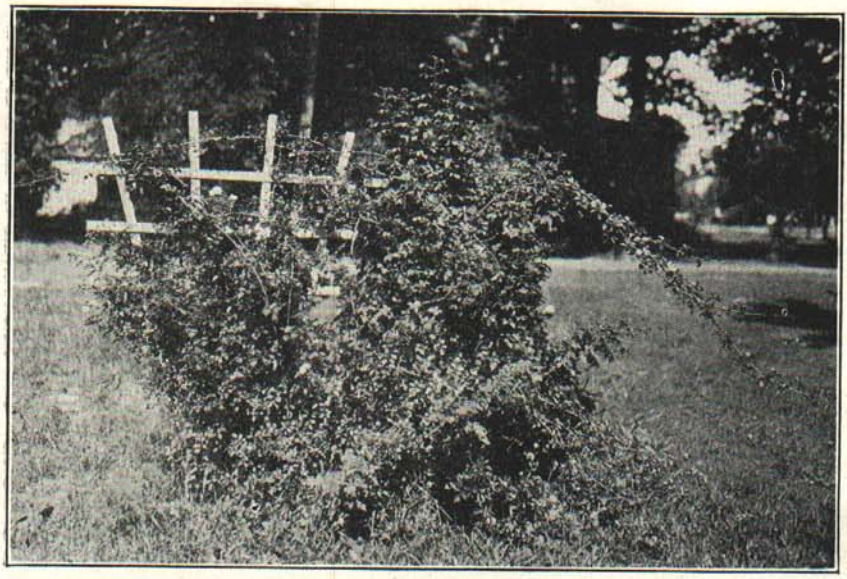

Fig. 13. A climbing rose immediately after flowering and badly in need of pruning.

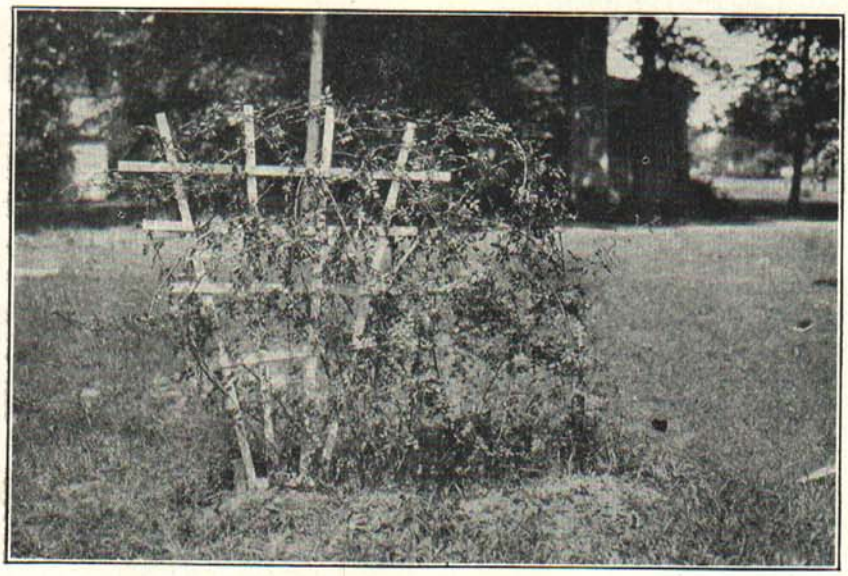

Fig. 14. A climbing rose properly pruned.

Wound Treatment

All cuts should be clean, close to the base of the removed branch, and parallel to the portion from which it was severed. Parts of branches left attached to the plant will dry out, decay, and then possibly serve as a point of infection for the trunk of the trees. Limbs that are being sawed off should not be allowed to break over and peel some of the bark from the main trunk. All wounds over an inch in diameter should be painted. The paint will keep water, fungi, and insects from entering the wound. It should be applied every second or third year to prevent checking.

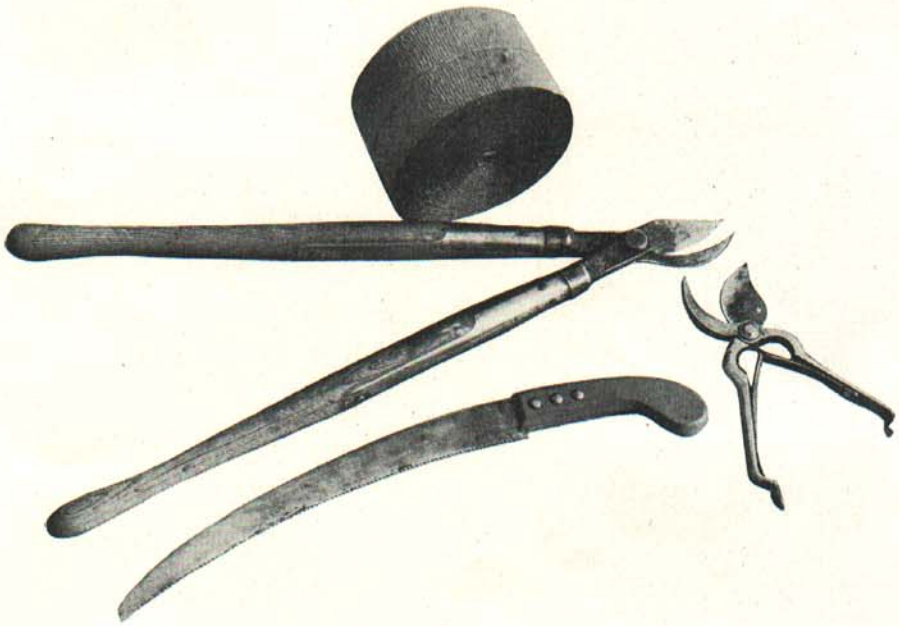

Fig. 15. Pruning tools.

OTHER CARE OF SHRUBS

The care of shrubs outside of pruning is simple although necessary for their proper growth.

The areas to be planted to shrubs should be spaded and plenty of humus and rotted manure spaded in. If the area was formerly a part of the lawn it should be "skimmed" off first. All weeds including grass must be kept removed. Nothing dwarfs a shrub more than allowing grass to grow about it. Mulching with peat-moss or other humus each year for several years holds moisture and adds fertility and keeps the soil in a friable condition.

If the plants show poor vigor it is generally due to a lack of fertility. If barnyard manure is not available commercial fertilizer should be used.

PRUNING TOOLS

A pair of small hand pruning shears, a pruning saw, and a pair of large pruning shears constitute all the necessary equipment for pruning shrubs. If trees are to be pruned, a ladder may also be necessary. All cutting tools should be kept sharp to prevent the making of rough-edged wounds that are slow in healing.

If trees are to be transplanted it would be desirable to purchase a roll of specially prepared paper for wrapping purposes. This prevents the entrance of borers (see cover).

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