

18" x 2" x 2", and bore a hole near one end, slightly smaller than the tube of the eye-piece. Do not measure the tube by the rim of the lower lens for that is always larger than the tube. Fit the hole to the small brass slide which carries the screw, and then the main tube may be adjusted nicely through it. Be careful while handling the brass tubes not to bend them. Should the bit of the nearest size be slightly too large, wind the slide carefully with paper until it will make a snug fit.

The lower lens tube should be removed until the hole is finished and the tube inserted; then screw it in, and rest the strip on a small block of wood as shown in the cut. Focus roughly by sliding the block back and forth, and finish by sliding the tube up and down, giving it at the same time a slight rotatory motion. Rest a flat-iron on the lower end of the strip if there is any unsteadiness.

This shows but one form of mounting the eye-piece of a telescope and the simplest, but such an instrument afforded the writer his first glimpses into the marvelous world of microscopy. It is a good instrument, and with it any young enthusiast will train his eye and hand so as to do fair work in preparing and mounting objects, and at little expense in ready money.—*Builder and Woodworker.*

#### FLORICULTURE.\*

The cultivation of flowers is an occupation that improves alike the body, mind and heart. It is an almost certain indication of purity and refinement.

Floriculture, or the cultivation of flowers, is an art based upon the natural sciences—botany, chemistry, and entomology. Although a knowledge of these and kindred sciences will give much aid, it will not of itself make a good florist.

When a student has learned all that lectures and books can teach, he still needs observation, practice, and experience to make him master of floriculture. It is not a rude, simple matter, but requires and rewards the fullest command of science and the knowledge of nature's laws.

What is needed in the cultivation of flowers is more study, more thought, more enthusiasm, with less attachment to old ways, methods, and practices, which, if ever desirable or judicious, have long ceased to be so. If those who love flowers, will intelligently resolve that their cultivation shall and must improve, it will not be long before we have an art worthy of our country and the age in which we live.

We can afford to cultivate and study flowers if for no other reason than their cheerful surrounding. Many do without flowers because they think that they cost too much time and trouble, but one does not have to think long to be convinced that all things worth having cost considerable and that anything worth having is worth working for. Oftentimes the partial success or in many instances total failure in the cultivation of flowers is due to the fact that we try to do too much, that our gardens are too large and not sufficiently cared for. No one should have more ground devoted to a garden than can be kept in the highest state of cultivation. Excellence affords satisfaction and pleasure, while failure brings mortification and pain.

The same may be said of house plants or plants kept within doors during the winter. Too often do we see many plants crowded together in a poorly lighted window, compelling each plant to take on a form never intended by nature and foliage quite different from that desired by the owner.

\* A paper read by George C. Watson before the Clyde Grange Natural History Society.

One of the chief requisites in management of house plants is plenty of sunshine.

Next is an atmosphere neither too dry nor too close and a uniform temperature (lower at night than during day).

Some practical hints as to watering may be summed as follows:—Rain water is better than spring or well water. Hard water may be greatly improved by adding a drop or two of ammonia or a little soda, a small nugget about the size of a pea to every gallon of water used. As to time of day, morning is the best, and next is the evening. Never water house plants when the sun is shining brightly upon them; the supply of water must be regulated according to the demands of the plant; the condition of the plant and of the soil is the best guide. Never give water when the soil is moist to the touch. Nearly all plants require more water when in bloom than at any other time, more in a warm temperature than in a cold, and more when in a state of active growth than when at rest. Plants in open rooms usually require water once a day and some demand it twice, at any rate all should be examined with interest to water at least every day.

Cleanliness is essential. The leaves of plants should be kept free from dust, hence frequent washings are absolutely essential, although when watering never wet the flowers of a plant nor allow drops of water to stand on the leaves in the sunshine. Never allow water to stand in the saucers of the pots unless the plants are semi-aquatic. Watering is at least two-fold. It supplies plants food or elements of fertility contained in itself and converts the plant food or nourishment of the soil into a liquid form, so that it may be absorbed by the roots. The roots of a plant must be kept moist, not wet.

When the drainage is the most perfect, plants will generally be the healthiest and will need watering the oftenest.

Give house plants as much light as possible during the day, and darkness with a lower temperature at night.

Plants require rest; a uniform temperature of 60 or 70 degrees in the daytime and 40 to 45 degrees at night will give the best results.

Turning the plants toward the light should not be done, unless done regularly. Besides light, house plants require a good supply of fresh air. Ventilation is absolutely necessary.

A word as to the restoration of cut flowers that have become wilted; the question is often asked, "How can I restore or refresh this flower?" It may be a rare flower, or one that is prized highly as the gift of a friend—in either case joy will follow its restoration. Cut flowers have frequently been restored to freshness, even when every petal is drooping, by placing the stems in a cup of boiling hot water and leave them until the petals have become quite smooth, then cut off the cooked ends and place in lukewarm water, and for this purpose pure rain water is thought to be preferable. The freshness of cut flowers is due wholly to two conditions, either evaporation from the flowers must be prevented by inclosing in a case containing a saturated atmosphere or the evaporation must be supplied by moisture at the cut end or stem. This stem is composed mostly of woody fibre or cellulose, whose power to absorb water soon diminishes, hence to enable the stem to absorb the most water, the end must be frequently cut off.—*Scientific American.*

A system of building houses entirely of sheet iron has been communicated to the Society of Architecture in Paris. The walls, partitions, roofs, and wainscoating are composed of double metallic sheets, separated by an air mattress, which is surrounded by different non-conductors of heat.