that more than three stigmatic lobes might be present in a flower. One flower was found that had six stigmatic lobes and nine (9) well-developed stamens and eight petals, the ovary being somewhat three-angled with three-awned scales surmounting it. The ovary was one-celled with three ovules. Another flower had seven petals, seven stamens, five stamens with indication of a sixth, the ovary, three-angled with three awns, one-celled with four ovules. Another head showed two flowers fused together; one flower was normal, the other consisted of seven petals, seven stamens and five styles.

In examining these teratological cases, the writer was struck by the partial reversion of a number of flowers to a more or less ancestral condition, for it is conceivable that the flowers of Compositae in the gynoecium are much reduced, as to the number of carpels which enter into the formation of the pistil.

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Stems Pierced by Rootstocks.

I think it is Emerson who says a person finds what he looks for. In the absence of leaves on the trees I have several times been surprised at the number of natural grafts to be found in a few hours.

One of the interesting things in connection with transplanting is the opportunity it affords for seeing what has been going on out of sight beneath the surface of the ground. Much remains to be learned in this line of study, as few people are giving the subject any attention, while during the growing season green foliage and beautiful flowers are everywhere in sight in myriads of eyes.

Several of our grasses, such as quick grass, June grass, Bermuda grass and red-top, produce large numbers of stout underground stems, known as rootstocks.

The tips are sharp and stouter than might be supposed. While

digging potatoes I have several times come across tubers that had been pierced by rootstocks of June grass or quick grass. In one hill I once found two tubers thus threaded by grass. A gar-

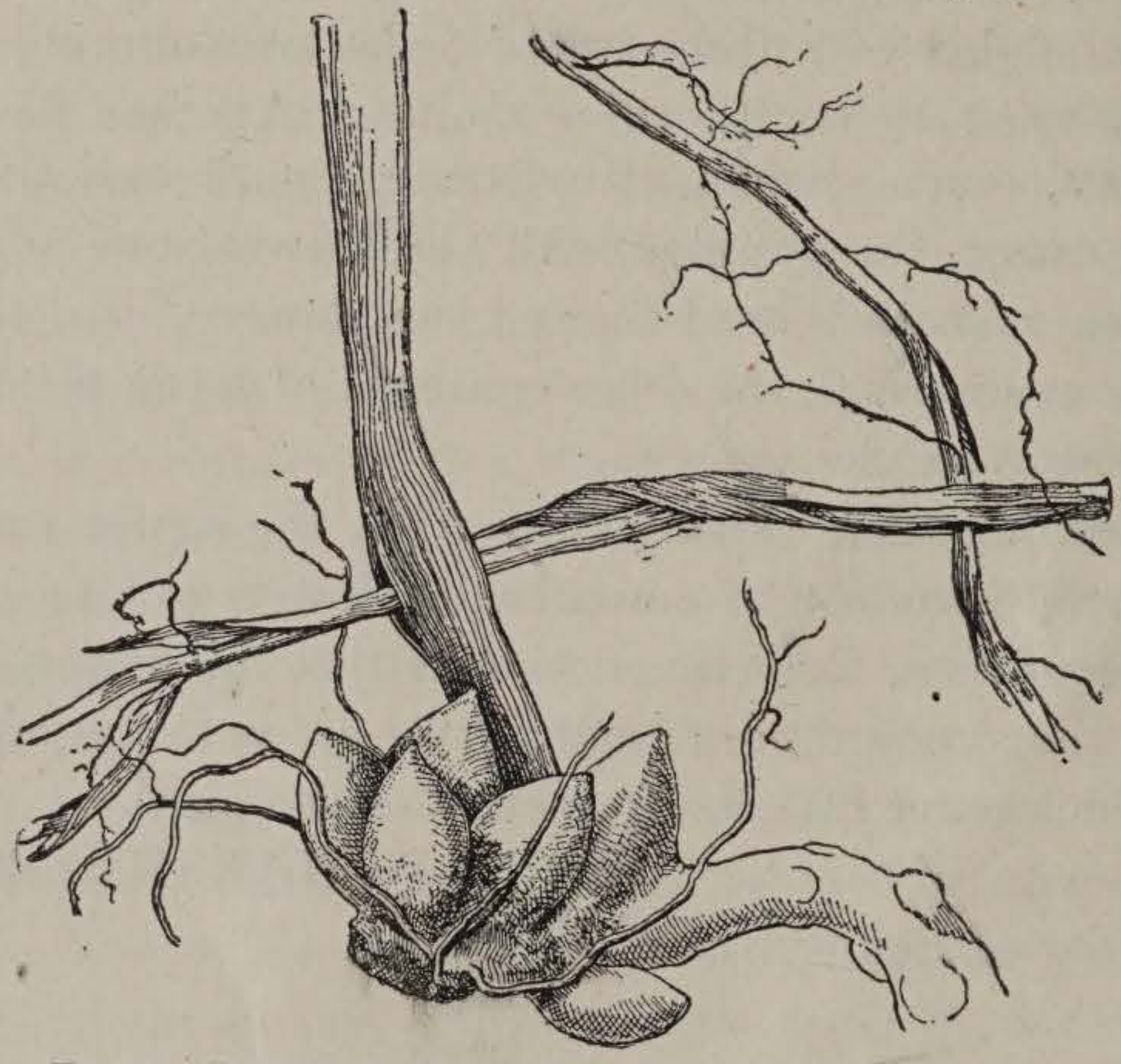

FIG. 12. LILY STEM PIERCED BY JUNE GRASS ROOTSTOCK.

dener in 1884 brought me a bulb something like a small onion that had grown in a flower-pot, and through it was an underground stem of June grass. In 1888 one of my students found an herbaceous stem with June grass extending through it, and the same year another student brought me the lower portion of a lily pierced by a June grass rootstock, and this rootstock was itself pierced by another rootstock of the same kind of grass. The specimens above referred to are well preserved in the college herbarium, and are objects of considerable interest. Monstrosities of this character and of other kinds are well worth preserving.

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(The following notes are from a correspondence bulletin of the Gray Memorial Botanical Chapter)—Editor.

Plant Vitality.

The vitality of plant life is sometimes remarkably illustrated. Two years ago I collected, on the upper slopes of Mt. Wilson,