

EXPERIMENT ILLUSTRATING THE CIRCULATION OF FLUIDS AND VITALITY IN PLANTS.

BY AN OTTAWA NATURALIST.

For some years back I have had a violent fancy for the common buttercup, (*Ranunculus acris*, L., introduced from Europe) which has spread so rapidly and in such numbers in our meadows, fields and orchards that it is one of the very commonest weeds in many portions of Canada to-day.

It is in point of construction one of the most perfect of our flowering plants. Look at its roots, its stem, its leaves, its hairs, its branches, petioles, flowers; the calyx, corolla, stamens, anthers, pistils, stigma, everything about it, and note the order, shape, relations and arrangements of these parts and their symmetry; keep this order in your mind as representing the type of a large and important family of plants, the family which stands at the head of all plant-life in point of perfection. There are many interesting experiments and studies which centre round this species.

The following experiment with a wilted sprig of the common buttercup, which measured nine inches in length, will serve to illustrate not only the great rapidity with which this species takes up moisture—water—through its marvelous system of canals in its internal construction, but also the vitality which it exhibits.

Taking this nine-inch specimen of the common buttercup which, by the bye, had remained for fully an hour and a half in a glass without water, it was observed that all the flowers and buds at the tops of the branches or petioles had wilted, and to such an extent that some were hanging with their receptacles facing the ground and for quite a distance back some of the petioles also were seen to be in an inverted position, at right angles to the horizontal.

It may be noted that the wound made to the plant, where it was severed, two or three inches from the root, as is the case in most plants had been partially closed up by dint of the constriction which took place in the shredded cells during the drying process. This phenomenon appears to indicate the provision made or contrivance used to retain as long as possible whatever moisture the