

STOPPAGE OF A SEWER LINE BY ROOTS OF *ACER SACCHARUM*.

---

F. M. ANDREWS—Indiana University.

---

The many well-known examples of stoppage of sewer and pipe lines is probably exceeded from the standpoint of time, at least, by the following example:

A six-inch sewer pipe line was laid five feet deep between two trees of *Acer saccharum*. For two years the line remained perfectly clear of all obstruction and no difficulty was experienced. Late in the summer of the third year a stoppage of this line suddenly occurred. The trees above referred to are 21 years old, about 6 inches in diameter and about 50 feet high and are vigorous specimens. They stand on a west exposure and on a bank in the open where they are subjected to the direct rays of the sun. The bank was a narrow one, so that the ground was quickly dried out and the most actively growing part was excessively dry. This caused the roots to grow down very quickly in search of water and to escape the upper and lateral very dry layers of the soil. On nearing the pipes there was also a chemotactic attraction exerted. The roots finding a small opening grew in quickly, effecting a complete closure of the tile line for a distance of fifteen feet. By their further quick growth, especially after entrance, the heavy cement joints were completely ruptured. The sewer line was replaced in the region affected by heavy double-hub cast-iron pipe whose joints were sealed with lead. Within the space of a few months, therefore, the roots of these trees had completely blocked the pipes. The universally known tendency of *Populus deltoides* as well as the roots of other trees and plants to grow into sewer and water pipes is common knowledge. The location of the stoppage in a sewer line may be ascertained with comparative accuracy. This can be easily done, since one can ascertain the volume of a given section of the pipe and the metered volume of water required to fill the pipe from stoppage to the water supply, due consideration of course to be paid to those cases in which the stoppage may not be complete and where some water may pass through.

