Question

Why does the water flow decrease after some time if a water faucet is only slightly opened?

Answer

A slight opening removes the pressure from the sealing, which pressed it on the inlet. The sealing takes on its original shape again and/or swells up. At the same time the small gap is closed partially or even completely (Fig. 2, drawing 2 and 3).

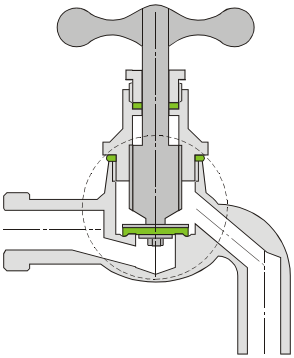

Fig. 1 cross section drawing simple faucet

A simple **water faucet** (Fig. 1) is pressing a sealing disc on a circular hole. Thereby the water flow is stopped. When the spindle is screwn upwards the sealing lifts off and water starts to flow.

The velocity and magnitude of the **effect** are determined by the material of the sealing.

Textile sealings used in earlier times intensely swell up within minutes and cause the water flow to stop in a slightly opened faucet.
The partial elasticity of **rubber and plastic sealings** produces minor effects which may be seen only after hours.

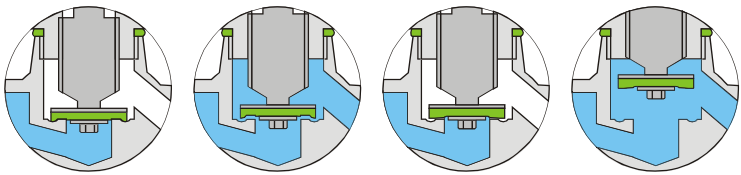

Fig. 2 Four typical positions in a water faucet

Modern **single-lever water faucets** close and open by sliding punched ceramic discs against each other. Because of the extremely hard material and the different functional principle the effect mentioned above can not be observed here.