Maintaining Power Using Circlip as Spring

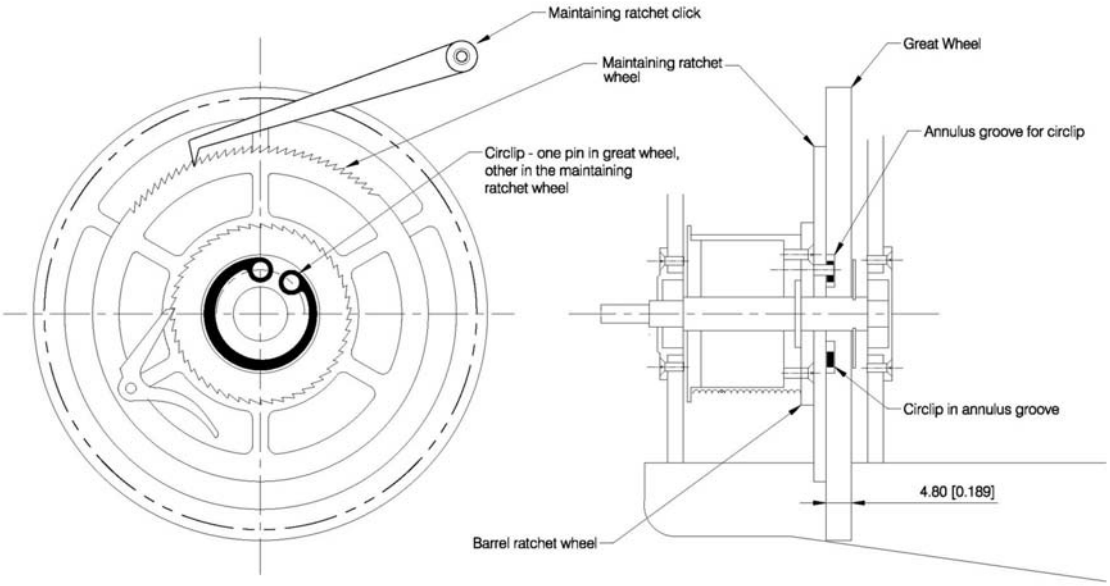
Rex Swensen – Sydney

This is a technique I use for a fairly simple Harrison Maintaining Power. It was shown to me by a fellow member of the Sydney Clockmakers Society.

A circlip, 20mm diameter in my case, is placed in an annulus groove machined in the great wheel. Two steel pegs engage the holes in the circlip, one is drilled into the great wheel, and the other into the maintaining ratchet wheel. The spring is completely hidden from sight. Both great wheel and maintaining ratchet wheel are free to revolve in the great wheel arbor.

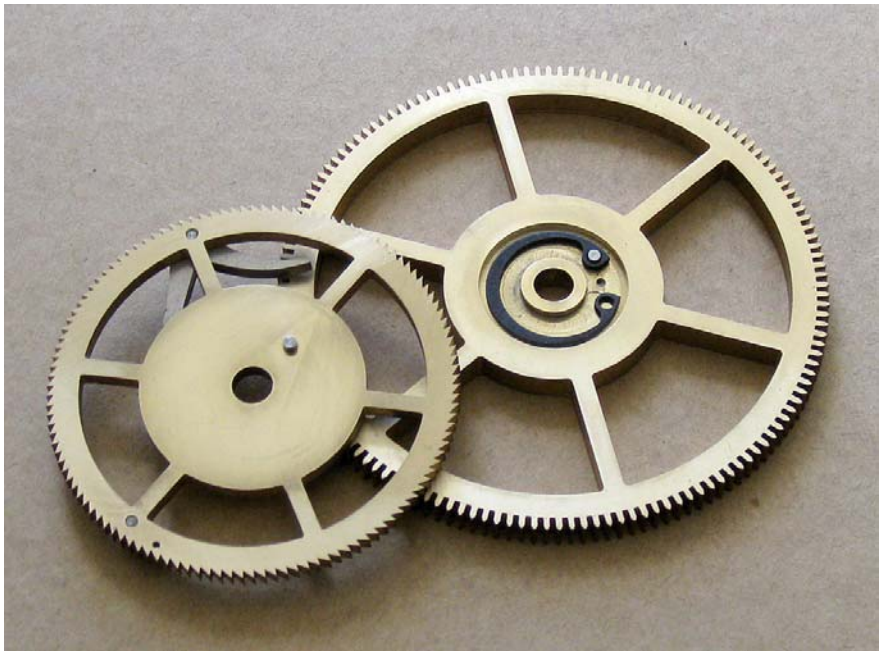
Of course the maintaining ratchet wheel is prevented from rotating backwards during winding by the maintaining ratchet click, which is kept in contact due to its own weight.

Normal drive is transferred to the great wheel via the barrel ratchet to the maintaining wheel and thence to the great wheel via the circlip.



The normal winding procedure is to wind the key backwards for say two clicks to ensure that the maintaining spring (circlip) is well energized. In my clock, this will power it for about 10 minutes. During normal running the maintaining click rides up to the next tooth every six minutes and drops with a faint click sound.

I do not believe it makes much difference whether the spring is “opened” or “closed” during loading, provided there is enough clearance in the annulus.



Rex Swensen
September 2008