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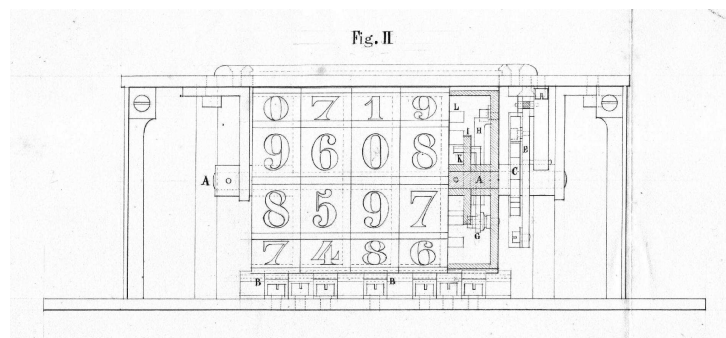
# The (re)discovery of one of the oldest modular digital mechanical counters (1844)

Denis Roegel\*

16 december 2014

The purpose of this brief note is to announce the (re)discovery of an interesting mechanical counter. This counter had been known before, and it was patented in 1844 by Jean-Baptiste Schwilgué and his son Charles. Jean-Baptiste Schwilgué (1776–1856) is the well-known designer of the current astronomical clock of the Strasbourg cathedral, a marvel of 19th century engineering. In addition to working on his astronomical clock, he constructed about 500 tower clocks, as well as various machines, scales, calculating machines, etc. In an earlier article published in 2008, we have described his invention of a simple adding machine, which, retrospectively, appears to be the currently oldest known existing key-driven calculating machine. This machine was also patented in 1844.

Schwilgué did not venture very much in the world of calculating machines, but apart from his work on the mechanization of the church computus, which is a kind of calculation, he designed several simple calculating devices. The adding machine from 1844, of which several copies survive in the Strasbourg museums, one in Zurich, and perhaps elsewhere, was meant for the accountant who had to add columns of digits.



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Schwilgué's counter, on the other hand, is very similar to the mechanical counter that equipped the older cars, and was not meant to be operated by hand, although it can be. The counter was meant to be connected to a machine, and it could then count some event, for instance the number of rotations of a wheel, or the number of back and forth motions of a piston. The important feature of this counter is that it is gearless. It is not an analog counter, but a digital counter. Its design is very simple, and its construction is modular. This means that to some extent it is possible to construct counters with 3, 4, 5, 6 digits, or more.

To our knowledge, copies of this counter have only recently surfaced. In fact, several counters were kept by the Ungerer company, which continued Schwilgué's business after 1858. These counters were lent to the Strasbourg museums, and may have been on display before WWII. Later, they were put in storage and forgotten. We have first tried to locate these counters (and all other items known to have been constructed by Schwilgué) in 2003. It was only in 2009 that they were eventually found. It was in June of that year that we did examine all of these mechanisms and dismantled those that could be dismantled.



An upcoming article will describe this counter extensively. If other such counters are kept elsewhere, we would appreciate information on them.