

# CHRONOLOGY OF THE CHRONOGRAPH

## From the balance spring to the moon (1675-1969)

**1675** – By inventing the balance spring, Christiaan Huygens takes the watch into the realm of scientific horology. From then onwards, master watchmakers sought to measure seconds and fractions of seconds.

~**1720** – George Graham builds a piece of laboratory equipment powered by a driving weight, the pendulum of which marks quarters of a second. This ingenious system made it possible to indicate (in theory) sixteenths of a second.

~**1750** – A tiny number of sea captains use watches known as 'dead-seconds' watches. The second hand advanced by jumping forward every second and could be stopped for ease of reading – but doing so stopped the entire watch mechanism.

**1779** – Jean Moise Pouzait (Geneva) presents a watch with an independent dead-seconds hand. This second hand, driven by a separate mechanism, could be started and stopped without interfering with the hours and minutes mechanism.

~**1780** – The jumping-seconds hand, or *foudroyante*, appears on the scene. The jumping-seconds hand had its own mechanism and made one rotation every second, pausing 4 or 5 times to mark quarters of fifths of a second.

**1815** – After unfruitful attempts by John Arnold, Parisian watchmaker Louis Moinet (1768-1853) designs a device that measures sixtieths of a second, which he calls a 'counter of thirds'.

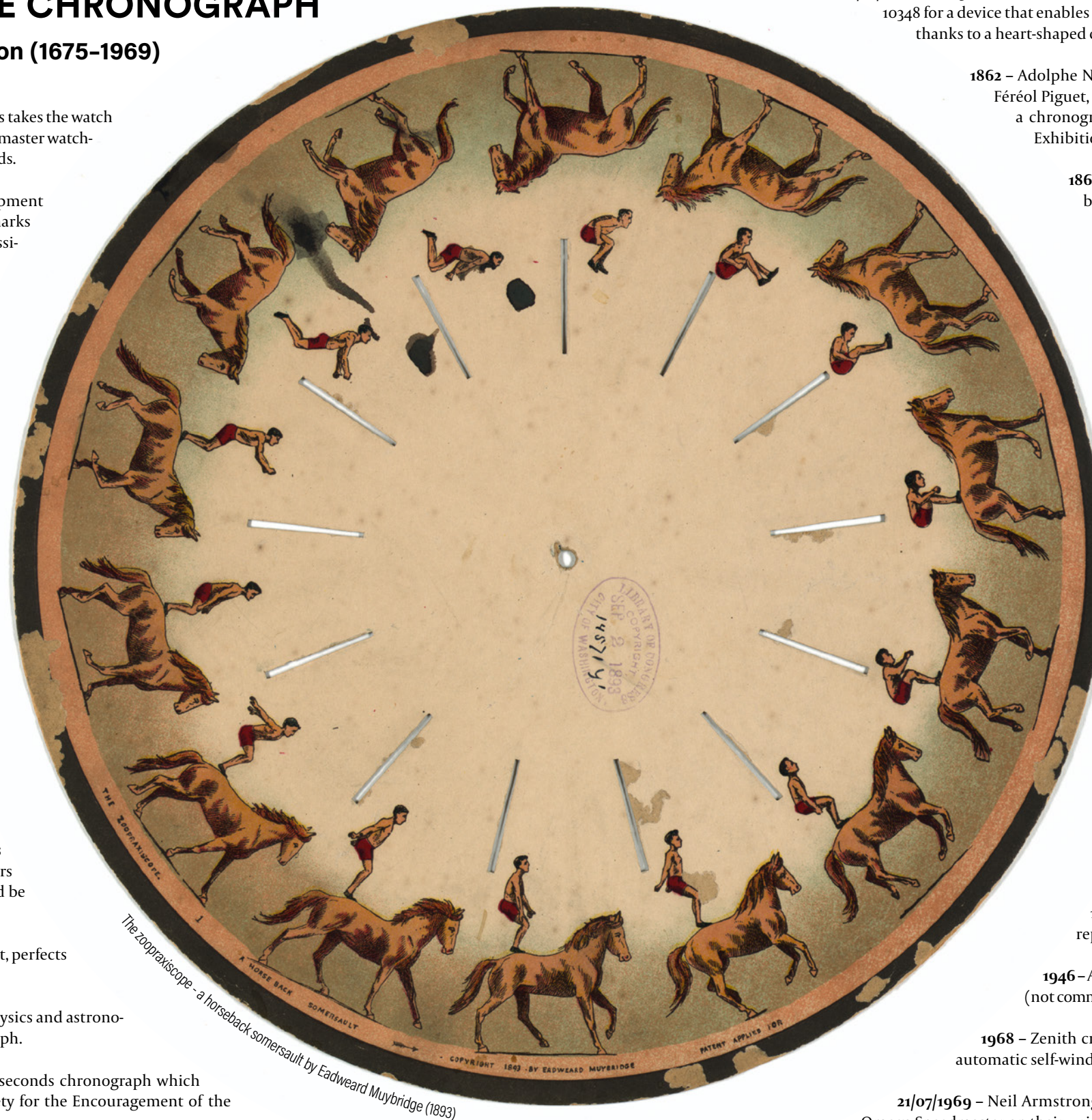
**09/03/1822** – Nicolas Mathieu Rieussec (Paris) patents his 'seconds chronograph'.

**25/05/1822** – Abraham Louis Breguet starts (and completes in November 1823) the manufacture of two chronometers with double observation seconds. One of the hands could be stopped to measure intermediate times.

**27/09/1822** – Frédéric Louis Fatton, a pupil of A. L. Breguet, perfects Rieussec's invention on behalf of Breguet.

**11/03/1828** – Louis Frédéric Perrelet (Paris) patents his 'physics and astronomy counter', a forerunner of the split-seconds chronograph.

**1838** – Joseph Thaddeus Winnerl (Paris) invents a split-seconds chronograph which is simplified in 1840 and presented in 1843 to the Society for the Encouragement of the National Industry.



**14/10/1844** – Adolphe Nicole, a Swiss watchmaker working in London, files a patent under number 10348 for a device that enables the hand of a chronograph to be returned to its starting point thanks to a heart-shaped cam, a part still used today.

**1862** – Adolphe Nicole files the 1844 patent again in London and Paris. Henry Féréol Piguet, a watchmaker with the Swiss company Nicole & Capt, builds a chronograph with a reset function, which he presents at the World Exhibition in London.

**1868** – Auguste Baud moves the chronograph mechanism from beneath the dial to the bridges side – an arrangement which has remained unchanged since then and facilitates assembly and regulation.

**1909-1910** – The first wrist-chronographs appear.

**1916** – Heuer files patents for the micrograph to 1/100th of a second and the semi-micrograph to 1/50th of a second, both pocket chronograph counters.

**1926** – Patek Philippe makes the first mono-pusher wrist-chronographs.

**1928** – Cartier creates the mono-pusher Tortue Chronograph wristwatch.

**1933** – Léon Breitling files two patents for a mechanism for a wrist-chronograph with two push-buttons that allows cumulated times to be measured. The mechanism is an extension of that for the pocket chronograph patented in 1923.

**1935** – Universal launches its Compax wrist-chronograph, later followed by the Uni-Compax, the Aéro-Compax, the Tri-Compax and the Médico-Compax. Although a trademark, Compax became a generic term at the time for any chronoscope with identical functions.

**1936-1938** – Longines develops the first wrist-chronograph with a flyback function. Pressing the lower push-button returned the chronograph hand to zero, from where it immediately started again.

**1937** – Dubois Dépraz (Switzerland) develops a device aimed at replacing the column wheel by a system of cams.

**1946** – Albert Piguet of the Swiss company Lémania creates a prototype (not commercialised) of the first automatically rewinding wrist-chronograph.

**1968** – Zenith creates El Primero and Dubois-Dépraz the Chronomatic, both automatic self-winding chronographs.

**21/07/1969** – Neil Armstrong and Buzz Aldrin take the first steps on the moon, with an Omega Speedmaster on their wrists.