The Meyrat & Perdrizet (M&P) Pocket-Watch Calculator

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Peter Hopp defines a pocket-watch slide rule as any device that looks like a pocket-watch. He is candid in saying "I am trying to spread my net as wide as possible to cover a wide population of types…". He established no requirement that a pocket watch slide rule display the time but only that it looked like a pocket watch! He even artfully extended his definition of a pocket-watch slide rules to include wrist watch slide rules apparently on the basis of their being an evolutionary off-shoot of pocket-watches. His broadly inclusive definition serves admirably in allowing him to assess and classify a wide range of calculators that happen to look like pocket watches or that are wrist watches. As a consequence, his conscientiously researched work serves all of us well.[1]

Interestingly, there are few examples of devices that fit the much narrower definition; namely, that a pocket-watch slide rule is one that serves both as a time-piece and as a slide rule. Of course, had Peter used this definition he would not have published an authoritative book but would have instead produced a modest pamphlet! The Meyrat & Perdrizet (M&P) Type 1 pocket-watch calculator is the first true combination time piece and slide rule. The Spring 2003 issue of this journal (Vol. 12, No. 1) features on the front cover an M&P Type 1 calculator owned by Bob Koppany.

As pocket watches go, the one-sided M&P Type 1 pocket-watch calculator with the circular slide rule and time piece is a comparatively large instrument measuring 2.4-inches (61mm) in diameter and 0.7-inches (18mm) in thickness. The 15-jewel bridge movement has a cylinder escapement and a hinged back cover. With its two rotating silver discs, ring-mounted pointer that serves as a cursor along with its white enamel watch dial and Roman numerals, this French-made instrument is indeed a handsome example of 19th-century watch-making art and was the first pocket timepiece to incorporate a slide rule. It was produced in both nickel and gold.[2]

Peter Hopp writes:

> I have seen illustrations of examples with and without a second hand. These are different versions as *une petite seconde trotteuse* -- a second hand -- was an extra 5 Francs on the price, which was 60 Fr, for an ordinary metal case watch and 75 Fr. for a silver cased version. The model with the second hand had a blue steeled sweep second hand with gold hour and minute hand, the one without had blued steel hour and minute hands.[3]

FIGURE 1. Type 1 Combination Pocket Watch and Slide Rule Made by Meyrat & Perdrizet

Some Type 1 watches have a crystal inset on the reverse side to protect the watch mechanism, which may have been a more common feature on later production models. The sweep second hand, crystal inset, and the option of a silver case simply reflect the fact that several versions of the M&P combination timepiece and slide rule were produced.

When opened, the reverse side of the hinged back reveals that M&P was located in Seloncourt, Doubs, a small municipality in far eastern France located on the river Doubs only 10 kilometers from Switzerland. Seloncourt was a center of

watch making in the 18th and 19th centuries.

FIGURE 2. Reverse Side of the M&P Combination Pocket watch and Slide Rule[4]

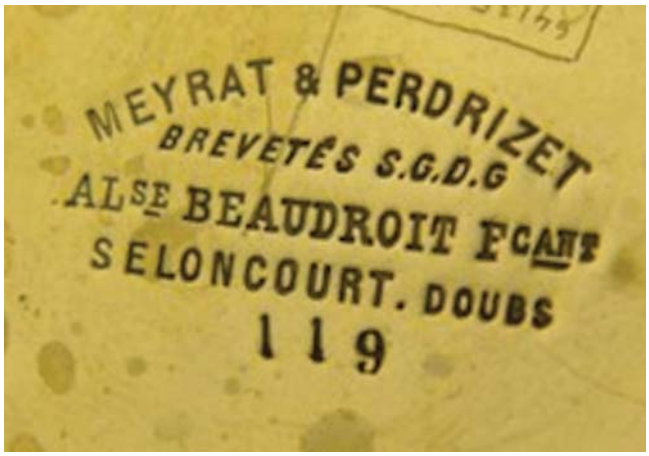

FIGURE 3. Inscription Inside the Back Cover of the M&P Combination Watch and Slide Rule[4]

The M&P Type 1 pictured here is numbered 119. Peter Hopp reports, "…examples have been seen with model numbers as disparate as No 140, 162, 327, and No 507. . ."[5] M&P appear to have numbered their pocket watch calculators consecutively, and made no distinction as to whether or not they incorporated a timepiece. There seems to be no pattern, although one might expect the higher numbers to appear predominantly on M&P Type 2 calculators that have no timepiece. Perhaps the best that can be said is that the total production run of the two calculators was something over 500 and, for lack of better information, split roughly between Types 1 and 2. The production run extended from the 1880s into the early years of the 20th century. While much of this remains uncertain, clearly these devices are over one hundred years old. More research needs to be undertaken to determine production runs and the precise periods over which the two calculators were produced. Peter Hopp is in the process of collecting model numbers of both Type 1 and 2 M&P models, but the collection is slow going. This article encourages owners of such devices to advise Peter of their model numbers. Perhaps our French friends can help in our search for more information. *C'est possible?*

FIGURE 4.
Detail of the Slide Rule and Ring-Mounted Cursor[4]

Although the circular slide rule has an effective length of only 4.9-inches (125 mm), this is a finely calibrated precision instrument that improves its accuracy. The cursor moves on a separate ring and is actuated by the left control knob. Immediately adjacent to that control knob is the clock setting pin, which is depressed to set the time. The right knob rotates the inner scale.

That the pocket watch and a slide rule combination did not prove more popular can be attributed to the cost because of the fact that its production and maintenance required the combined talents of both a watch maker and an instrument maker, although this could be one person. Surely, production of a commercially viable, dual purpose, pocket watch and slide rule was difficult. Evidence, we may infer, exists in the fact that the M&P Type 1 combination timepiece and slide rule devolved within a few years into the M&P Type 2 pocket-watch slide rule without the timepiece. However, this is pure speculation, based on the thesis that M&P were watchmakers first and foremost and probably saw the Type 1 watch calculator as their flagship product. After M&P halted production of their combination pocket watch and slide rule, the concept of combining a timepiece with a slide rule remained dormant until the popular wrist watch-slide rule combinations appeared in the early 1940s. Having said this, there is evidence that the concept continued to attract the interest of a few inventors. In a recent paper, Peter Hopp records several patents embodying the watch-slide rule concept that appeared in the early 20th century one of which may have seen limited production.[6]

FIGURE 5. The Common Heritage of the Meyrat & Perdrizet Type 1 and 2 Calculators is Apparent in this Side-by-Side Photograph of the Two Instruments[7]

As a closing thought, rarely when collecting slide rules can a collector claim to have a "first". An Oughtred slide rule is hard to come by–a masterpiece of understatement! An early W & S Jones, the first engineering slide rule, rarely surfaces. The jury is still out on what was the first American slide rule. A so-called "Rosetta Stone" slide rule stamped both D&P and K&E reflecting the roots of "modern" American slide rules are rare indeed. However, an M&P Type 1, the first combination timepiece incorporating a slide rule, does appear for sale from time to time and, although pricey, offers a collector an opportunity to own a true "first".

Notes

Hopp, Peter M., *Pocket-Watch Slide Rules,* Astragal Press, Lakeville, Minnesota, 2011.

[2] Joss, Heinz, *Proceedings of the 7th International Meeting of Slide Rule Collectors,* September 2001. p. 206.

[3] Hopp, *op. cit*. p. 40.

[4] Photograph by Alam.

[5] Hopp, *op. cit*., p 41.

[6] Hopp, "The earliest 'Wichmann' pocket-watch slide rule," *Slide Rule Gazette,* Issue 13, Autumn 2012, pp 83-85.

[7] Type 2 calculator image courtesy R. K. Otnes. Two local watch repairmen declined to open this calculator to determine the model number for fear of damaging it. Thus, we have been unable to determine the model number.