

Bernard Granville's pioneering machine

The Rapid Typewriter

As collectors and enthusiasts of typewriters, we are likely familiar with the lateral thrust action of the type bars on the Wellington, Adler or the later Noiseless typewriters of the early 20th century. The inventor of this elegant new design, with fanned out horizontal type bars that slide to the common printing point, was the American Bernard Granville who patented his Rapid typewriter in 1888. The lateral thrust design of the Rapid was a departure from the standard swinging type bars and the single type elements seen on the contemporary keyboard typewriters. The success of the lateral thrust design would come, but not for Mr. Granville.

BY MARTIN HOWARD

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HE FIRST RAPIDS WERE made in Findlay, Ohio in 1888 by the Western Rapid Typewriter Company. During the first year, disaster struck when the factory was leveled by a fire.

The factory was rebuilt in Dayton, Ohio during the following year and, in mid- 1890, a new company, Mead, Phillips & Granville, was once again producing Rapid typewriters. They

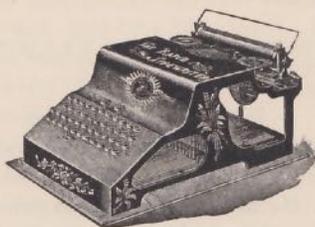
were the same machines made in Findlay with just a few minor variations. The run was a bit longer but not by much, as the company was in receivership during 1891 and went out of business this same year.

The National Stenographer magazine (Vol. 1, No. 6) in its June 1890 issue, erroneously introduces the Dayton-made Rapid stating that it has just

THE NATIONAL STENOGRAPHER. 207
THE RAPID TYPEWRITER.

This typewriter is just being put upon the market, and we give a cut of it below. Some of the claims made for this typewriter by its agents here are: Writing in any direction; rapidity of operation; printing in plain view; absolute alignment; ease of cleaning the type; constructed entirely of metal; firm touch, adjusted to suit the operator; high manifolding power; solid type-bars; positively automatic; pointer indicating at all times exact printing point.

The typewriter here shown is what is known as a "single case" machine, but we presume a "double case" will soon follow. The price is \$70.



The National Stenographer, June, 1890.

THE NEW DOUBLE CASE



RAPID TYPEWRITER.

Writing is in plain view. Carriage returns **AUTOMATICALLY** by a movement as simple as that of the printing of a single letter. Alignment perfect and permanent, without possible deviation. The acme of simplicity, and a marvel of mechanism. Correspondence with State Agents solicited. Catalogue on application. Address the manufacturers,

**MEAD, PHILLIPS & GRANVILLE,
Dayton, Ohio, U. S. A.**

Double case Rapid (1893), this model was seemingly not manufactured.

been put on the market. It is intriguing to read the claim 'Writing in any direction'. I assume this means being able to move the carriage backwards in the same way that a backspace key moves the carriage to the right. However, in examining the escapement mechanism, I do not see how this could have been achieved, and conclude that this reference is an error.

Given the small number of machines made during such a short manufacturing period, the Rapid is exceptionally rare today with just six known surviving examples. They are equally split between being manufactured in Findlay and Dayton, Ohio. One can see that the serial numbers had their own run at each factory.

Hans Barbian
314
Western Rapid Typewriter Co. Findlay

Reinmar Wochinz
392
Western Rapid Typewriter Co. Findlay

Tony Casillo
410
Western Rapid Typewriter Co., Findlay

Stefan Beck
251
Mead, Phillips & Granville, Dayton

Martin Howard
299
Mead, Phillips & Granville, Dayton

Milwaukee Public Museum
446
Mead, Phillips & Granville, Dayton

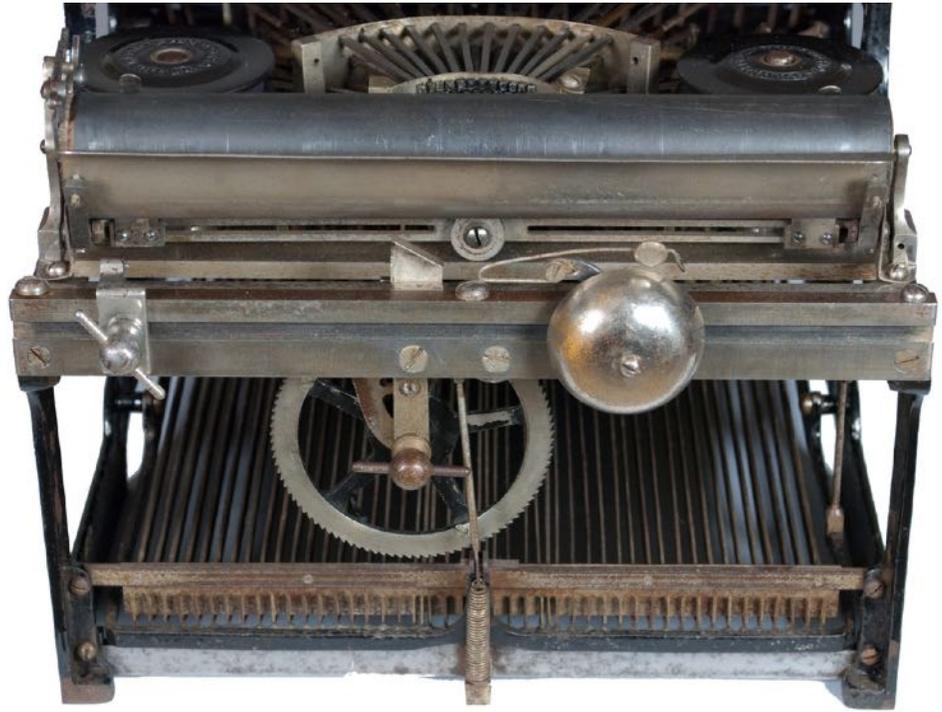
The motivation for Granville's lateral thrust design was to make a typewriter with permanent printing alignment, a goal of several other typewriter designs of the time. Keeping the swinging type bars properly aligned on typewriters such as the Remington, the most successful typewriter, was a recurring problem. Granville achieved this with sliding and converging type bars. The action of the type bars is well described by G. C. Mares (*The History of the Typewriter*, 1909):

"The characters were engraved at the ends of a series of (square) rods each converging to the printing point, and struck forward by means of a direct thrust on to the paper, which was met at the front of the platen.

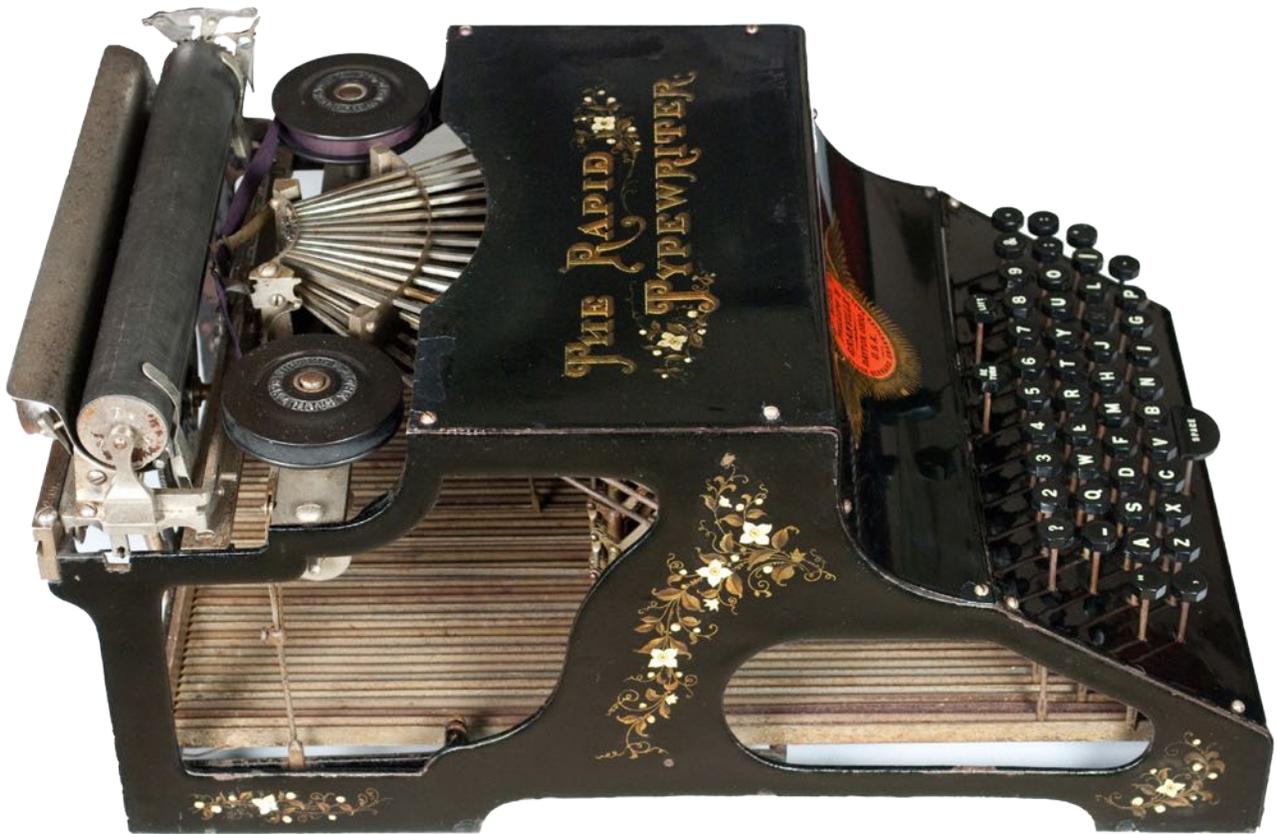
"In order to secure alignment, each bar travelled through its own apertures in two guide plates, and struck the common centre against a narrow ribbon."

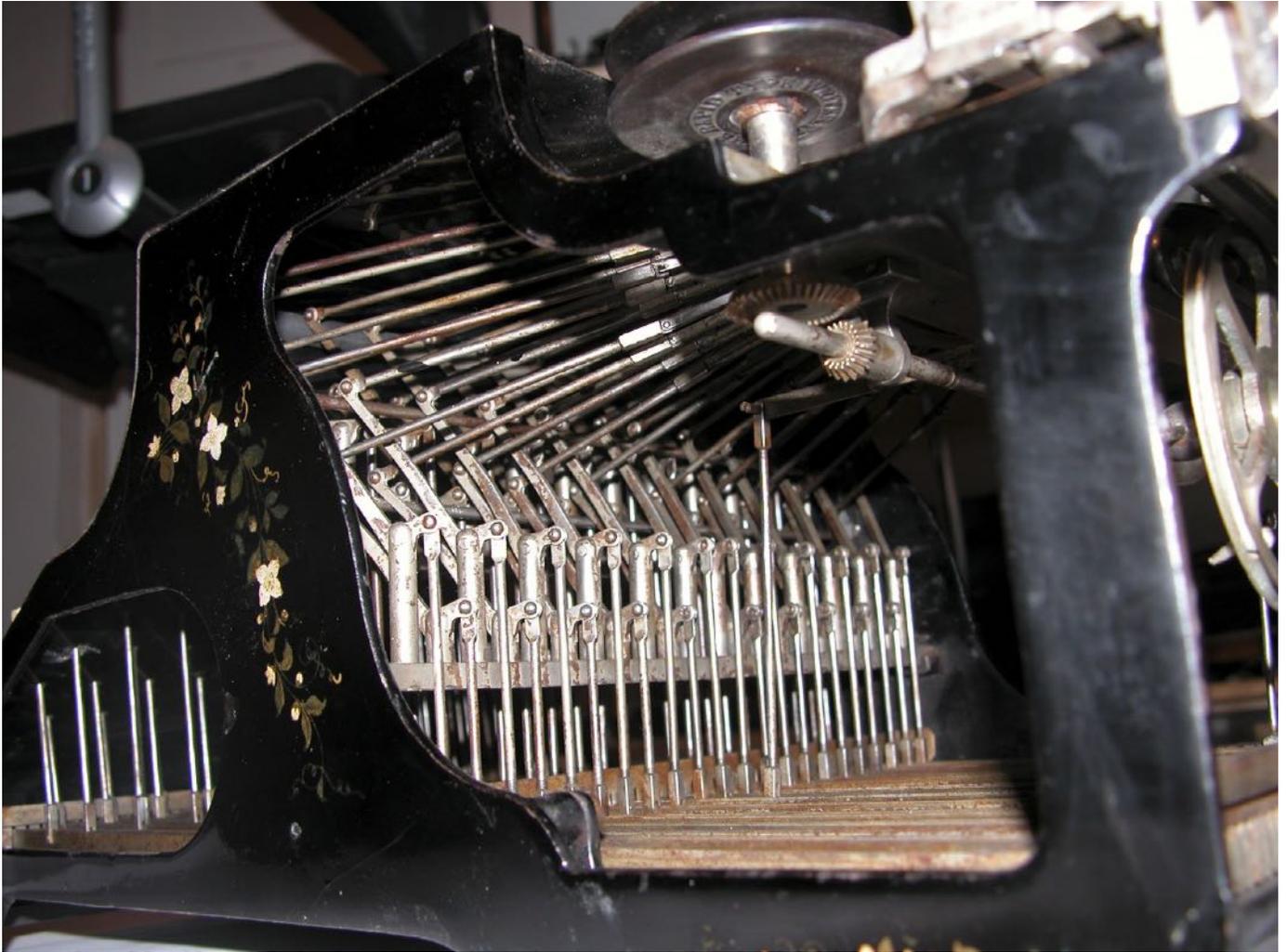


● Rapid#299.



The rear end, showing the large wheel that drives the automatic carriage return.





The thrust action system of the Rapid.

With this design, permanent alignment was achieved but the Rapid could only type in capitals with no shift capability.

In addition to the ground-breaking lateral thrust design, Granville bestowed upon the Rapid some other innovative and important design features.

Perhaps the most ingenious is the remarkable ability for the typist to have entire control of the carriage by manipulation of the keys alone. The two keys that achieve this, seen at the top of the keyboard, are a Lift key that advances the paper up on the platen to the next line and a Return key that causes the carriage to automatically swing back to the right, ready for one to type the new line. This feat was managed by having

a large spring-loaded escapement wheel, centrally located under the carriage, with a drawstring wrapped around its integral pulley with the ends being tied to either end of the carriage. When typing, the force of pushing the keys down powers the carriage to advance for the next character and also winds the spring in the hub of the escapement wheel. When one reaches the end of the line and pushes the Return key, the wound-up spring powers the return of the carriage. So, an entire page would be typed without one's hands leaving the keyboard.

These two automatic features would appear on both of the Rapid successors, the double-case Rapid (discussed later) and the aptly named Granville Automatic of 1896. These

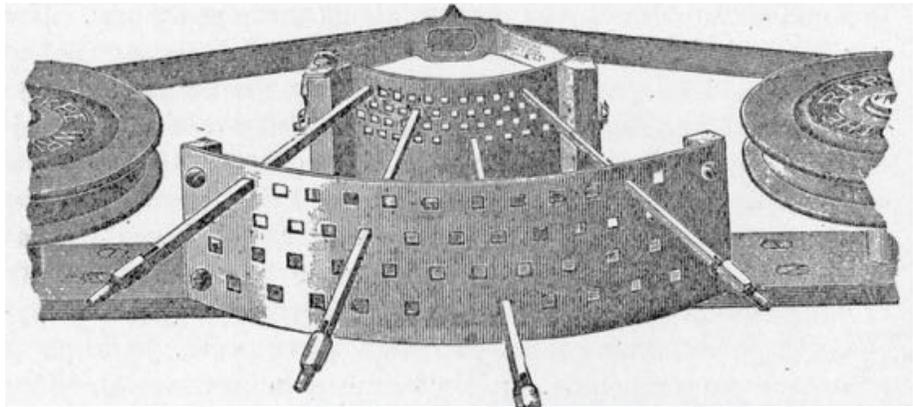
automatic features did not appear on any other typewriters.

To cap off the innovations seen on the Rapid, Granville invented one of the first ribbon vibrator mechanisms which gave full visible typing, "whereby I am enabled to have plain view of the character immediately upon the formation thereof, ... so that as the operation of writing is going on the writing moves from behind the ink-ribbon into view as fast as it is done. The operator is thus enabled to see the work as he does it." (Patent # 482,521, Sept. 13, 1892) It was a simple and effective solution to the pervasive problem of not being able to see what one typed right away. The ribbon vibrator in conjunction with typing to the front surface of the platen, gave the Rapid another great

historical claim of being the first marketed front strike visible typing machine. The Underwood typewriter of 1896 would firmly establish this design as the standard for the next century.

The feel of the typing action on the Rapid is smooth and somewhat light with not too much friction. However, with the number of linkages involved and the action of pushing the type bars to the platen, as opposed to having them swing, there is a sluggish and springy feel to the touch which does not allow for a quick staccato action of the keys. In comparison, the Remington has a snappy feel to the keys, which would allow for greater typing speed. This issue and, perhaps most importantly, the fact that the Rapid only typed in uppercase, while most of the contemporary full keyboard typewriters had a shift key, meant that the wondrous Rapid was doomed even before its patent was granted in 1892.

The Rapid has a rather solid and heavy look with its flat sides and full covered front and yet it is quite light at 15 1/2 lbs. This quality is the result of the two large empty cavities and



The Rapid has custom-made vulcanized rubber ribbon spools, similar to the Hammond typewriter.

two large openings on either side of the frame allowing one to look right through the typewriter with ease. With its thin cast frame, it is actually a rather elegant and fragile machine.

There is a splendid looking “Double Case Rapid” described by Mead, Phillips and Granville in an 1891 advertisement. It is clearly a transitional model between the earlier Rapid and its successor the Granville Automatic. Alder states, in *Antique Typewriters, From Creed to QWERTY*, “The machine had been completely redesigned and labelled New Rapid but without improving the fortunes of the manufacturer.” In fact no such typewriter is known to exist.

If this Rapid were to turn up, it would be a remarkable and important discovery. ■

Acknowledgements

With a special thank you to Peter Weil and Tony Casillo for some fine editing, conversation and assistance.



Rapid#314.