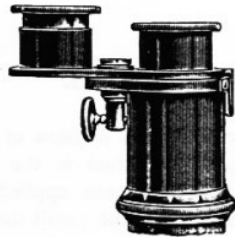


# Leitz Eyepiece Revolver

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This short article is just a footnote to Stefano Barone's excellent Micscape article on the magnification changer (1), in which he talks about a precursor to this: the eyepiece revolver. Michael Wolfson (2) continued the thread with further description of the very interesting Messter microscope first mentioned by Fritz Schulze (3), which incorporated a turret with 3 eyepieces.

I illustrate here an eyepiece revolver marked E. Leitz Wetzlar, which is figured in a Leitz catalog for 1901, archived in the Little-Imp Publications (4):



Double revolving Eye-piece.

Until very recently we have manufactured no arrangement for changing oculars on the microscope. This was due in part to the fact that there was no great demand for such an accessory and in part to the clumsiness of all those revolving eye-pieces which changed the entire ocular. The latter of these difficulties has been overcome in our present revolving eye-piece by such an adjustment of the collecting or lower lens of the eye-piece that it may remain permanently in position, the eye lens of the combination alone moving in the revolver. So accurate is the construction of the revolver and so carefully are the lenses adjusted that the eye-pieces may be changed while a specimen is in focus on the microscope stage without a readjustment of the focus.

The revolving eye-piece is also particularly well adapted to use as a micrometer ocular, for when the eye lens is turned aside a micrometer scale may be inserted and rests upon the diaphragm of the eye-piece. Once adjusted in this way the micrometer values are the same for all the eye lenses of the combination.

	£. s. d.
Prices: Double revolving Eye-piece, without eye lenses	0.10.0.
Each eye lens . . . . .	0. 3.0.
Eye-piece Micrometer, No. 77 . . . . .	0. 5.0.

I have also found it in a later Leitz catalog (5) from 1907.

I acquired it with other microscope accessories but show it here on a Leitz microscope also illustrated in this later catalog.



It is basically a Huygenian eyepiece with a revolving top half. Each of the two top halves contains an eye lens and diaphragm. The bottom half contains the lower lens, and slips into the microscope tube. There is a small screw to clamp it in place.

One of the top eye lenses (the shorter) has the notation 4 and, indeed, gives this magnification. The longer one has nothing legible written on it but appears to be 3x. Since the catalogs don't go into details, I don't know if there were eye lenses of other magnifications available. The catalog sketch seems to show at least one shorter eye lens than mine, which suggests a higher power.

In practice, I personally do not find this accessory particularly useful: care is needed not to bang your head or eye against the eye lens waiting in the wing. The later introduction of the magnification changer was a definite improvement.

## References:

1. Stefano Barone. The magnification changer in optical microscopy and its unusual and lesser known precursor, ie the Revolver ... of the eyepieces (!) Micscape Nov 2018
2. Michael Wolfson. Magnification changers and revolvers – a Messter microscope. Micscape Jan 2019
3. Fritz Schulze. The Messter/Berlin Universal Bacteria Microscope. Micscape Feb 2012
4. [www.microscopy-uk.org.uk/Little-Imp/M106.zip](http://www.microscopy-uk.org.uk/Little-Imp/M106.zip)
5. [www.archive.org/details/b28058690](http://www.archive.org/details/b28058690)

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