

TRE16 100-mm Foucault SECRETAN Newtonian Reflecting Telescope: Repair/Restoration

Issue 1: Front member of finder was broken off and missing; only the mounting plate with the 4 screws remained.

Action taken: Created an adjustable "open" cross-hair structure compatible with the adjustable peephole in the rear component of the original finder. Some photos of one of the other Foucault SECRETAN reflectors show a clear glass insert (no lensing effect).

Issue 2: No imaging possible; front surface concave mirror had been coated with an opaque lacquer and mounted facing backward - illogical on both accounts. No photos were taken to document this restoration.

Action taken: Gently removed the lacquer coating to leave as much of the original silver coating as possible, remounted the mirror properly - and wonder of wonders was able to obtain a fair image.

Issue 3: Telescope arrived with a stripped pinion gear in the focus mechanism of the ocular assembly.

Action taken: Pinion gear was carefully replaced.

Issue 4: Handle on keeper rod for attaching the square-tube to the wood base was broken.

Action taken: Repaired and re-soldered disk-shaped handle to brass rod.

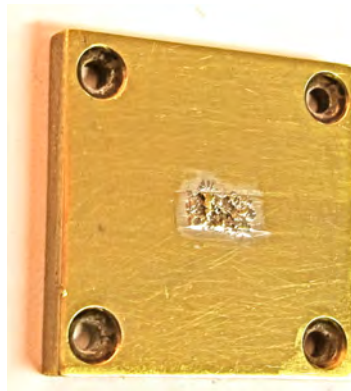
Issue 5: Telescope was missing a cover for the front end of the optical tube assembly.

Action taken: A new compression fitted end-cover was fabricated.

Issue 6: Walnut-sliding cover for the removal of the brass shutter in front of the primary mirror had been erroneously glued shut making it impossible to remove this shutter.

Action taken: Walnut cover was carefully detached, reformed, and re-installed to operate properly.

Issue 1



As received: Front member broken off and missing; only the mounting plate remained with its four flat-head wood screws

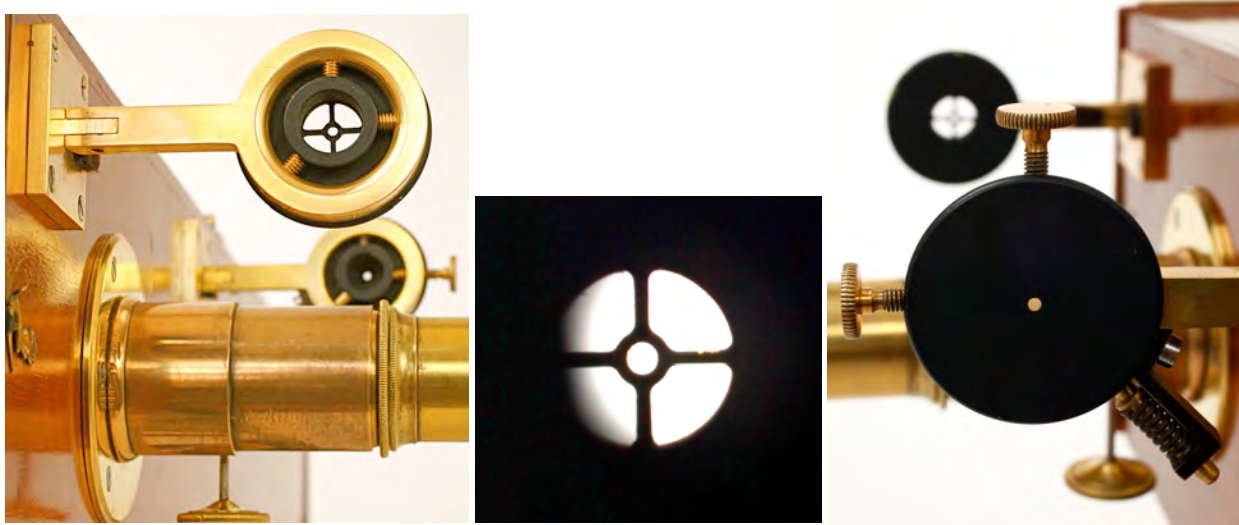


As Repaired

TRE16 Foucault SECRETAN Newtonian Reflecting Telescope: Repair/Restoration

Issue 2

Close up of restored front component of finder



Operational views of new restored front component in conjunction with original rear peep hole



Wolf Collection TRE16 Foucault SECRETAN 100-mm Newtonian Reflecting Telescope with its restored "open cross-hair" front component. There does exist a photo of similar Foucault SECRETAN telescope with a clear glass front member (no lensing action). So why the glass? An etch or painted element? This telescope also has the identical rear peephole configuration for its finder. This restoration did not affect originality other than the replaced mounting plate and the removable front assembly. Once determined, a more historically correct front member can be inserted into the versatile holder.

TRE16 FoucaultSECRETAN Newtonian Reflecting Telescope: Repair/Restoration

Issue 3



Left: Rack-and-pinion focus mechanism for the ocular lenses.



Right: Repaired pinion gear.



Used very small Rush Gear, Inc., pinion wire to replace old stripped gear:
10 teeth, shaft O.D. = 2.1mm, and gear O.D. = 3.3mm.

Issue 4



Small disk-shaped handle on brass keeper rod (right end) was broken and was re-soldered. This keeper rod holds the optical tube assemble to the wood base. Mount is reversible so the telescope can be used conveniently either by left-handed or right-handed operators.

TRE16 FoucaultSECRETAN Newtonian Reflecting Telescope: Repair/Restoration

Issue 5



After restoration: Sliding walnut cover (foreground) is now functional and is partially open to reveal the removable brass shutter (protruding out of the top) that covers and protects the front-surface mirror.

Issue 6



After restoration: Brass cover plate in place covering the open end of the optical tube assembly.

TRE16 FoucaultSECRETAN Newtonian Reflecting Telescope: Repair/Restoration

No additional Issues, but more information about the mirror cell is provided here because of the limited space on the 1-page descriptions within the galleries.



Mirror cell construction: top left - brass shutter to shield the mirror in front; top center 7 paper shims (see next page); wood and brass mirror holder; walnut slide cover plate for mirror cell access from the top of square telescope tube; back plate to hold cell holder in place; and front surface silvered spherical mirror.

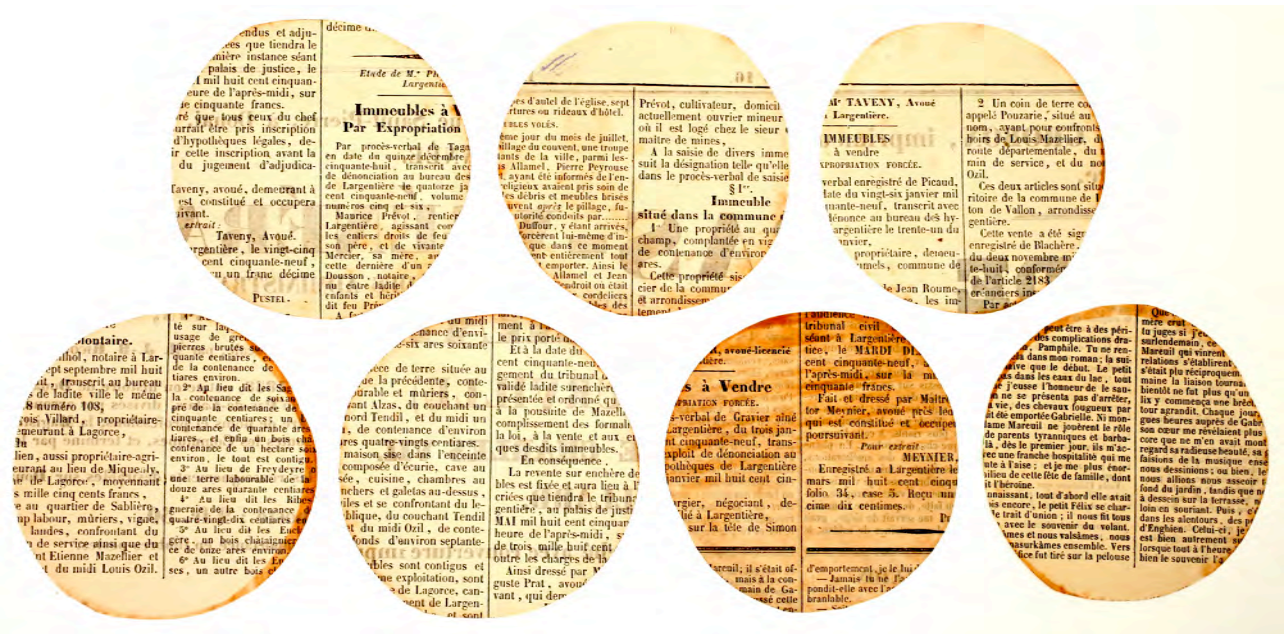


Prism holder with prism in place

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Note date of 1858 above



Front and reverse sides of seven paper shims used behind the mirror. Translation of some of the shims by Dr. William Tobin suggests they originated from a newspaper published in the south of France in the spring of 1859.