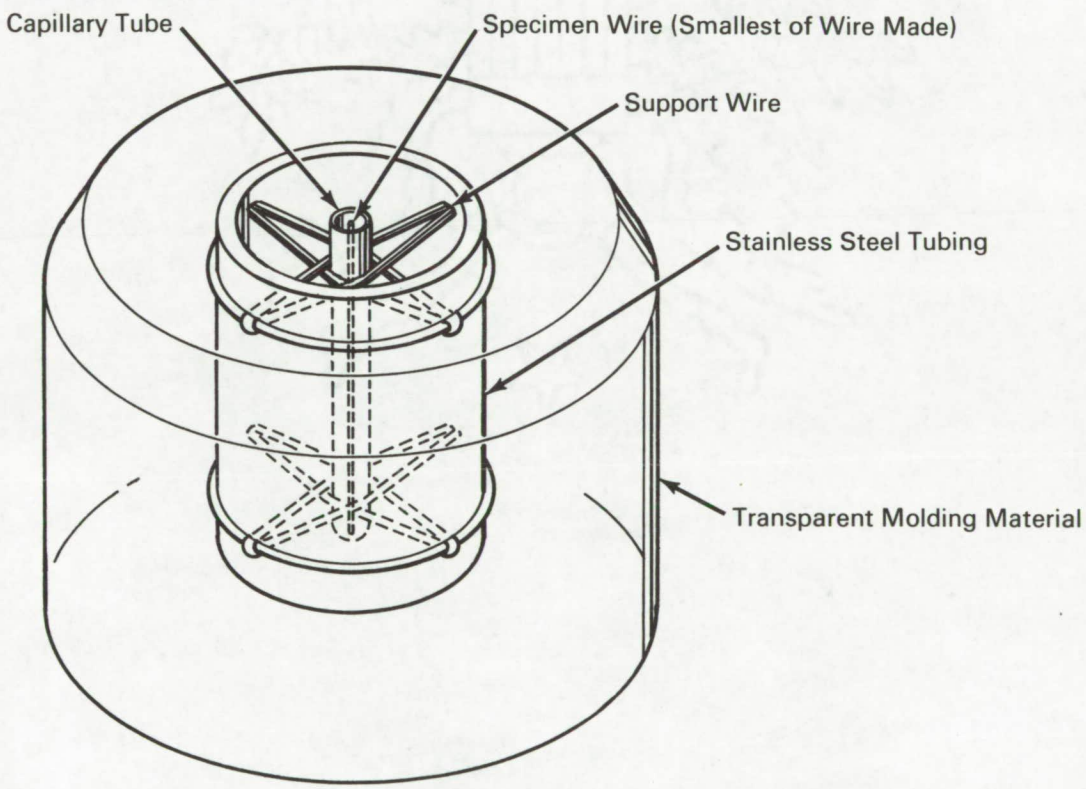
July 1966

Brief 66-10329

NASA TECH BRIEF

Inspection of Fine Wires Simplified by Capillary Tube Wire Holder



The problem:

To design a mount to hold fine wire (.0005 inch diameter) for photomicrographs. The mount must protect the wire from damage and permit easy location of the specimen. Formerly the fine wire was cast in a solid block which tended to damage the specimen.

The solution:

A capillary tube wire holder mounted within a stainless steel tube and cast in a transparent casting material.

How it's done:

A .030 inch x ¾ inch capillary tube is mounted within a ⅜ inch x ¾ inch stainless steel tube. Wires

(continued overleaf)

strung through eight .040 inch holes (four at the top end and four at the bottom) drilled in the stainless steel tube suspend the capillary along the axis of the larger tube. The fine wire specimen is inserted in the capillary tube and the whole construction is cast within a transparent casting material.

Notes:

1. Using this technique, four .0005 inch diameter specimens were successfully polished and their metallographic structure determined.
2. Inquiries concerning this invention may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas 77058
   Reference: B66-10329

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: H. A. Raphael
of North American Aviation, Inc.
under contract to
Manned Spacecraft Center
(MSC-358)