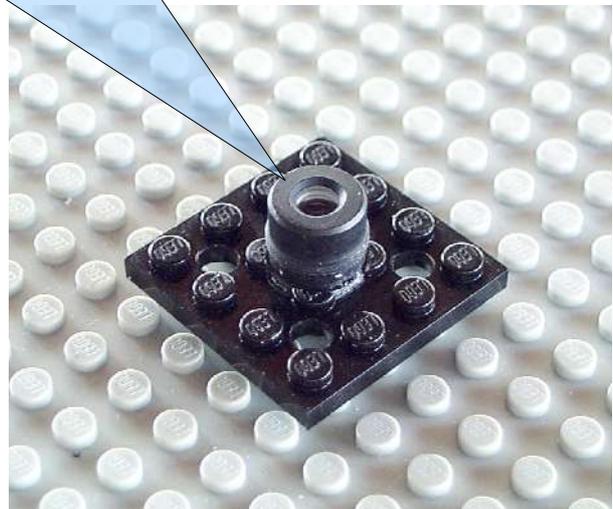
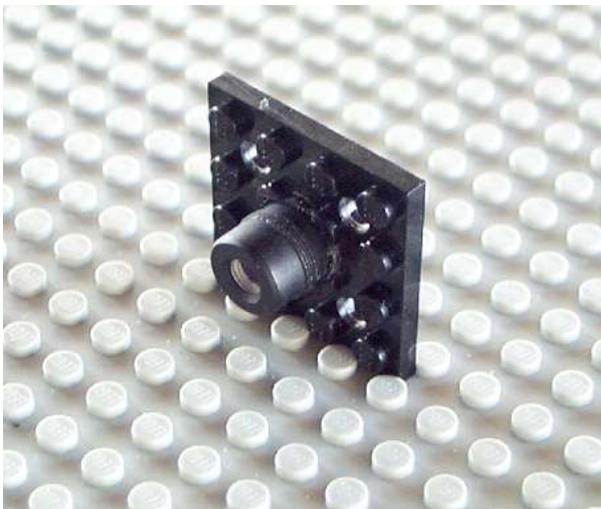


THE MICROSCOPE



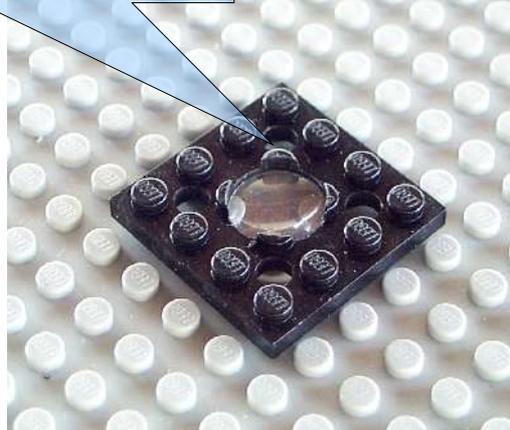
THE OBJECTIVE

CUSTOM PIECE:
SMALL CAMERA LENS USED IN THE REVERSE MODE
AND FASTENED TO A PIERCED LEGO 4X4 PLATE

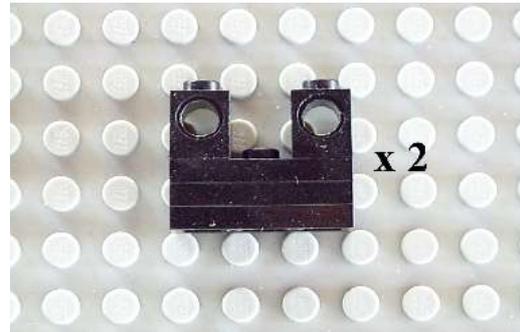
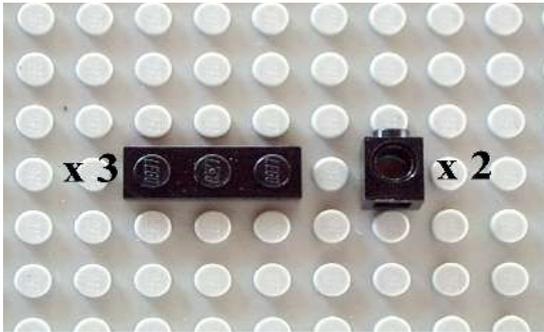


THE EYEPIECE

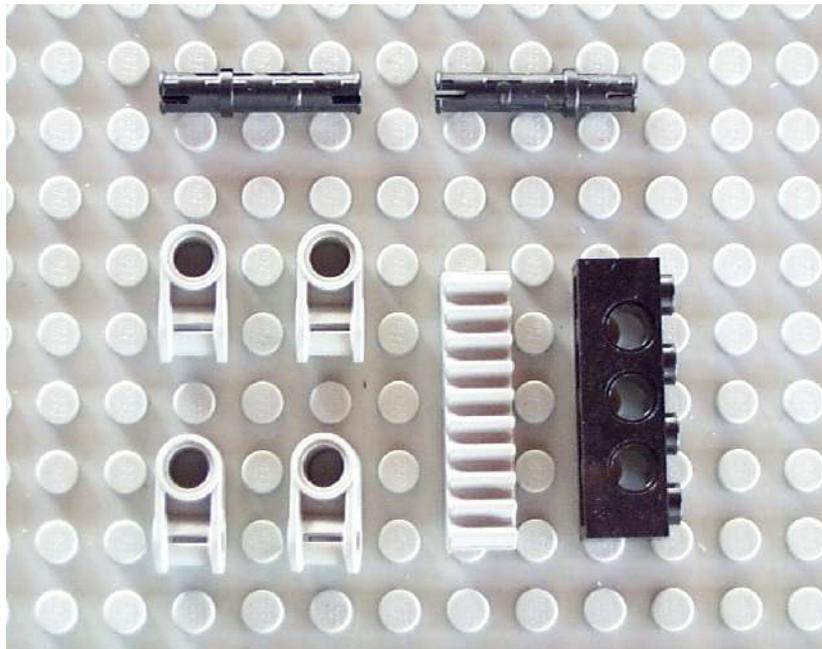
CUSTOM PIECE: PLASTIC LENS WITH A FOCAL LENGTH OF 30 mm AND A DIAMETER OF 13 mm, FASTENED TO A PIERCED LEGO 4X4 PLATE

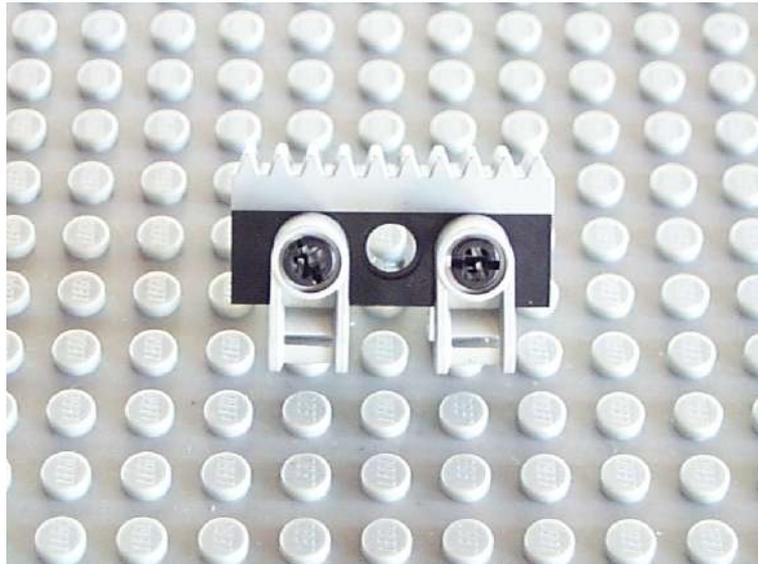


THE SLIDING MECHANISM

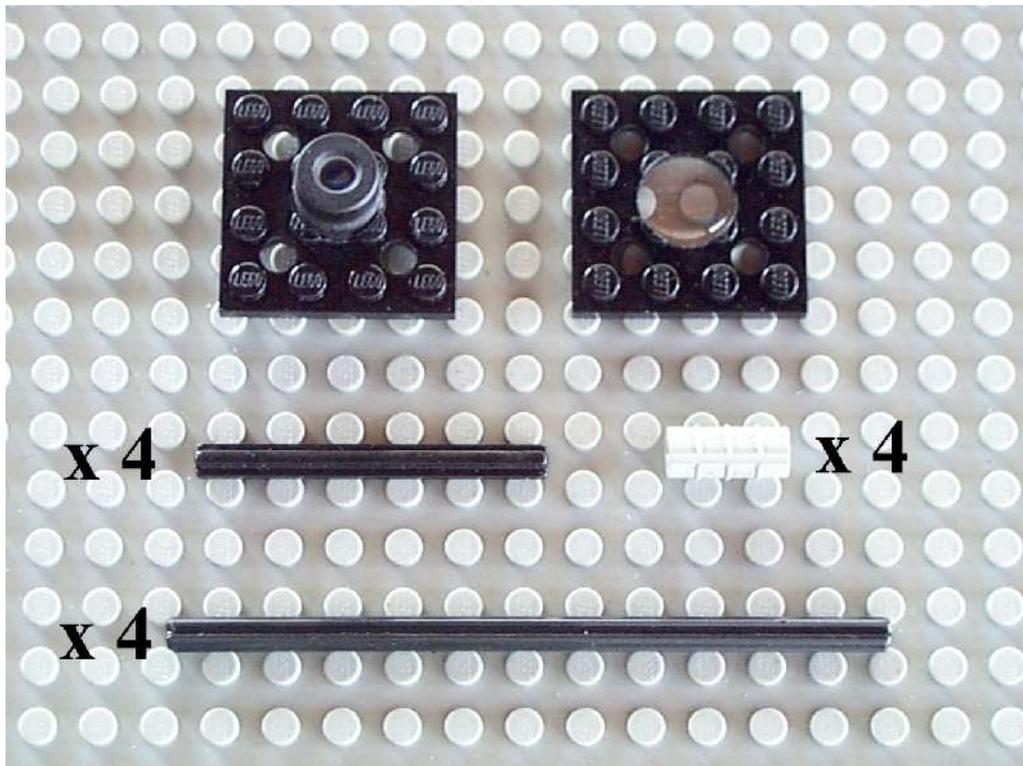


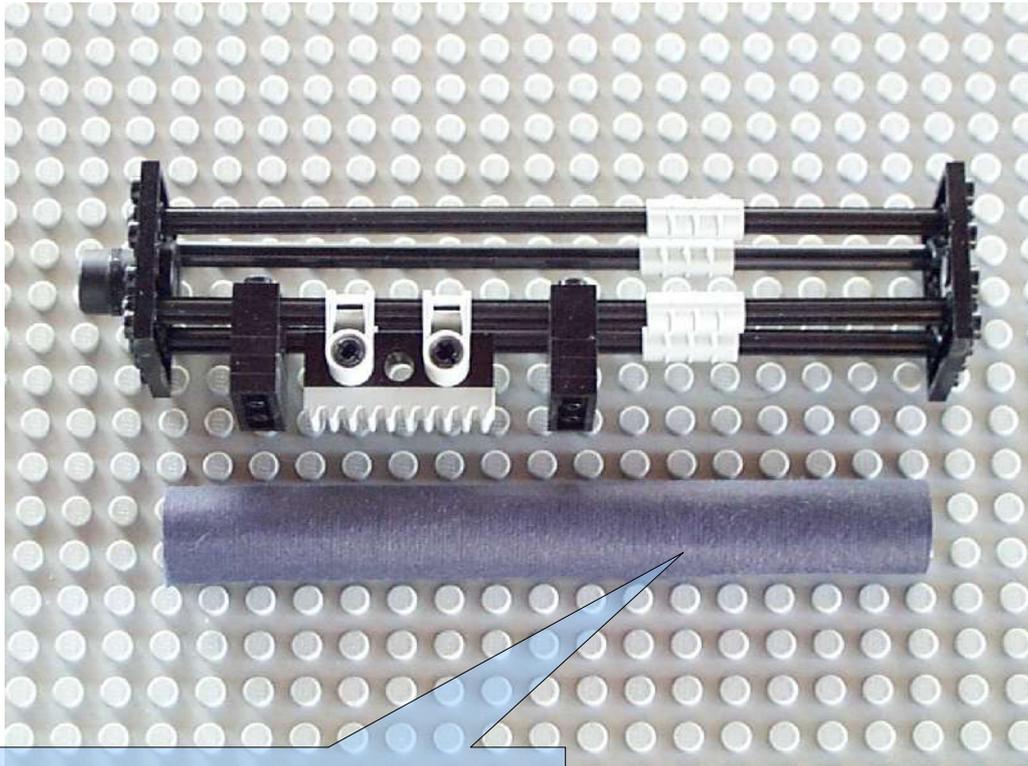
THE FOCUSING GEAR



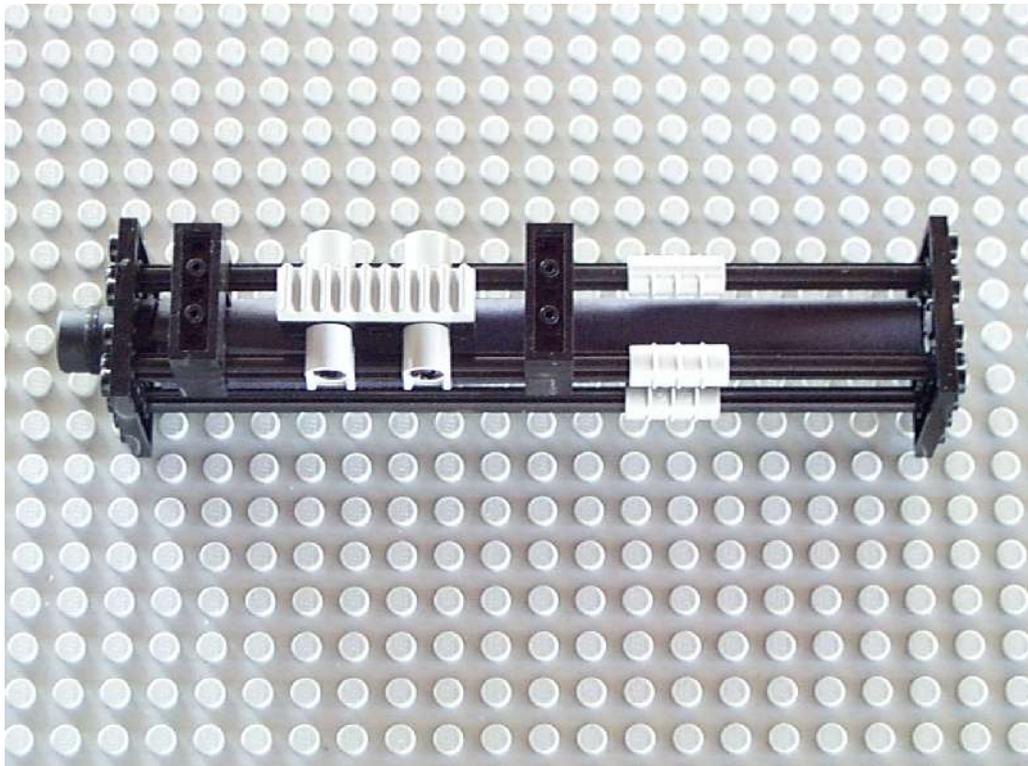


THE MICROSCOPE TUBE

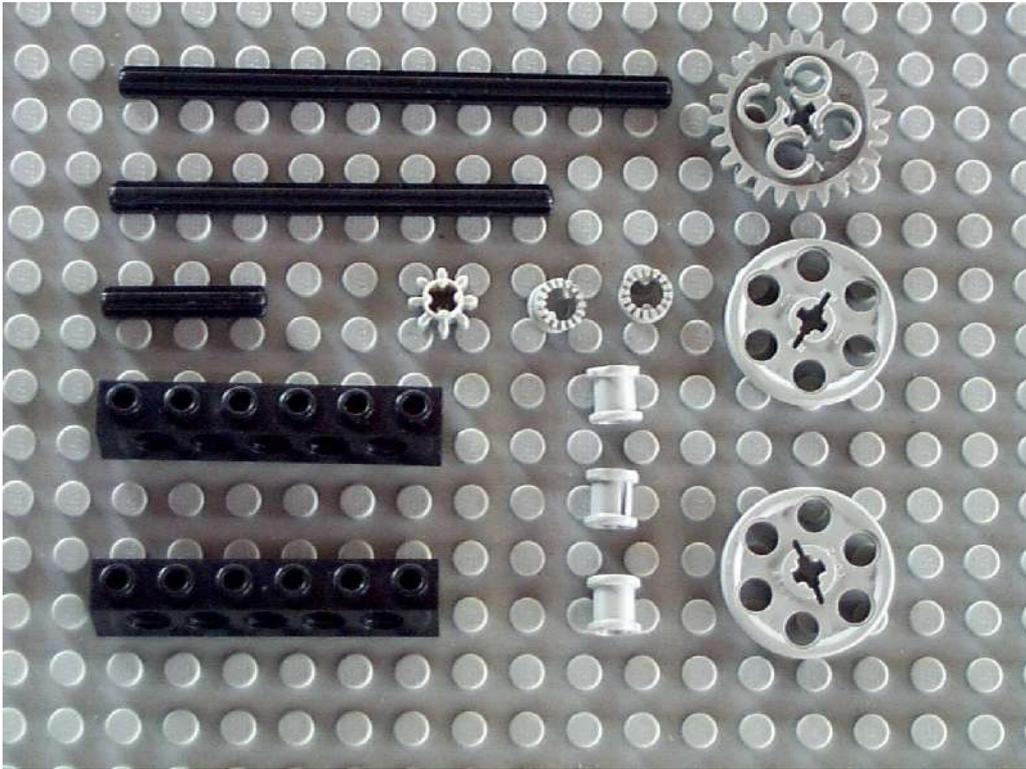




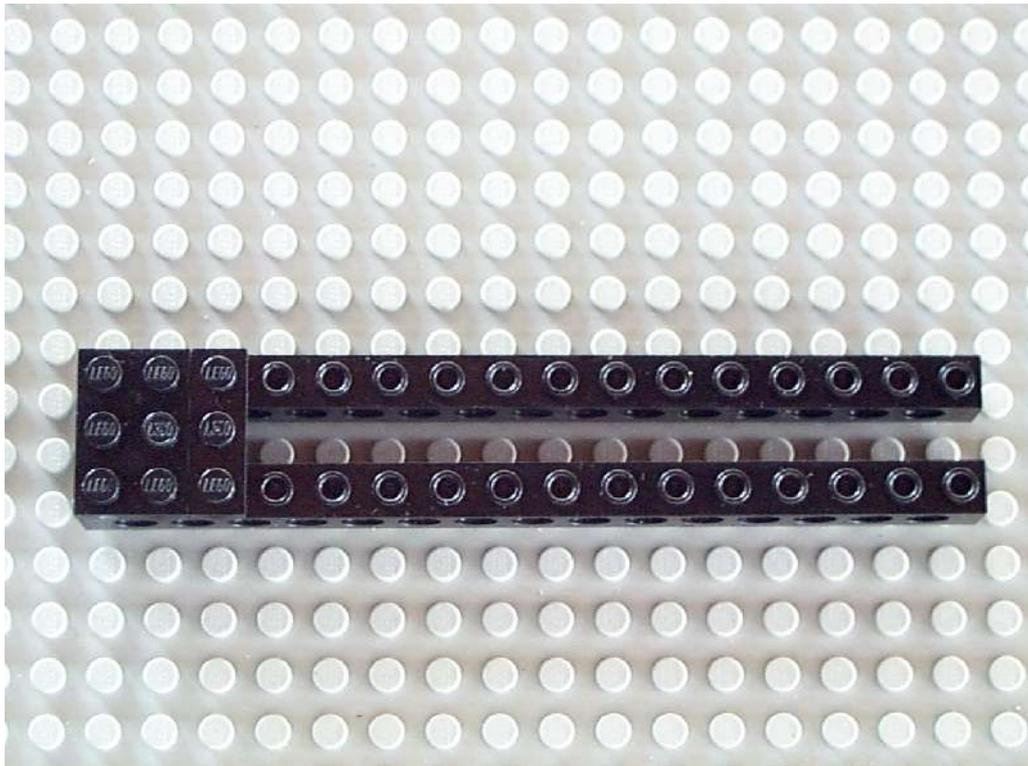
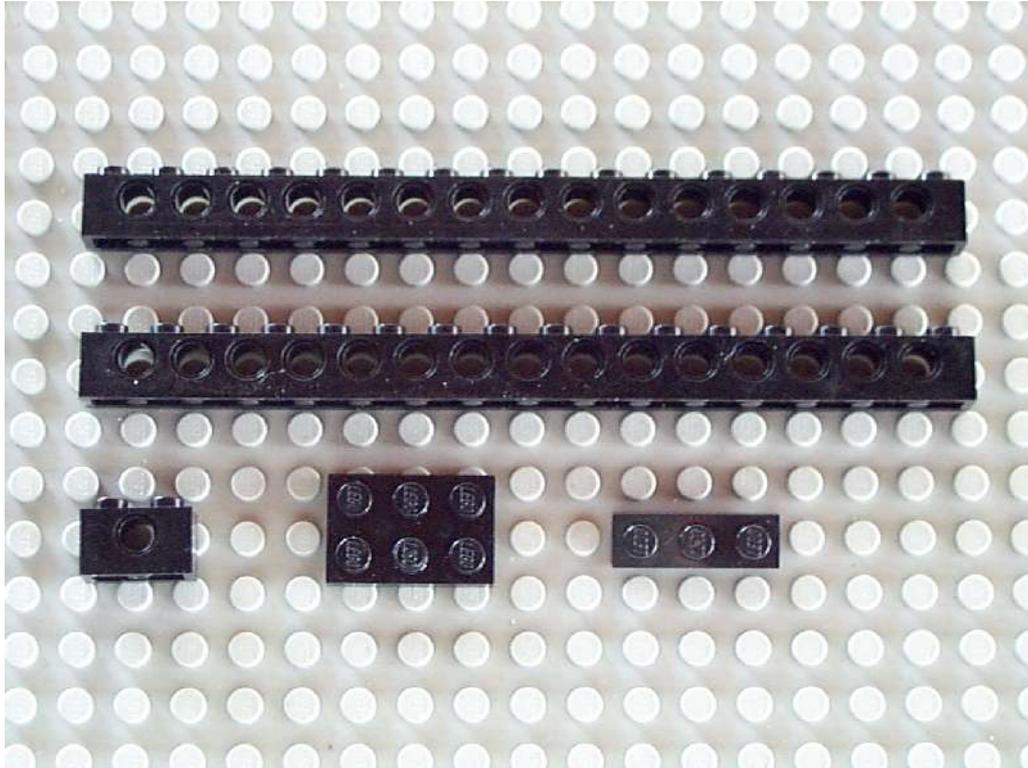
CUSTOM PIECE: A ROLLED UP BLACK CARDBOARD TO SHADOW AMBIENT LIGHT



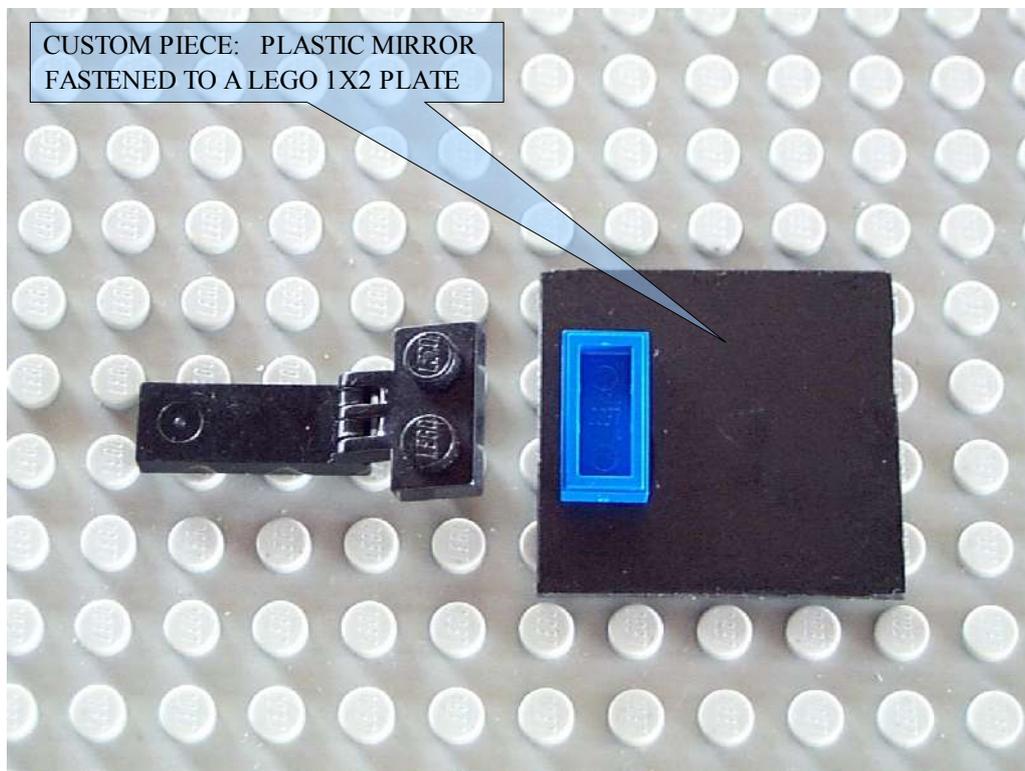
THE FOCUSING KNOB



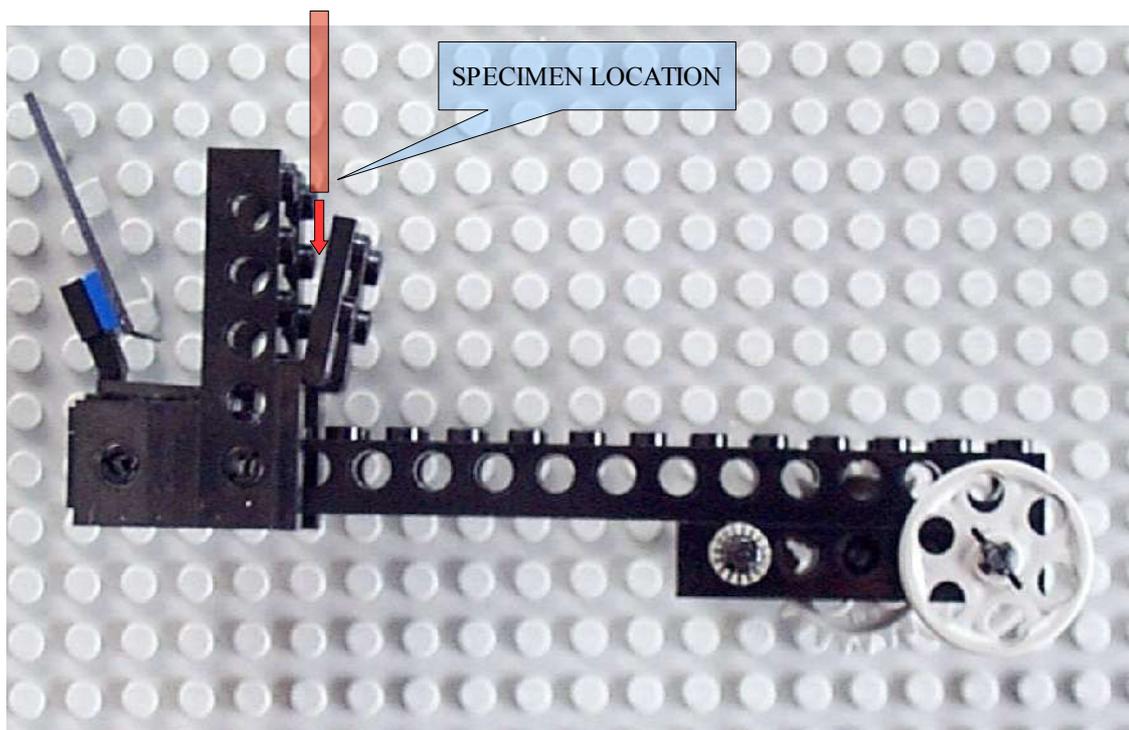
THE STATIVE



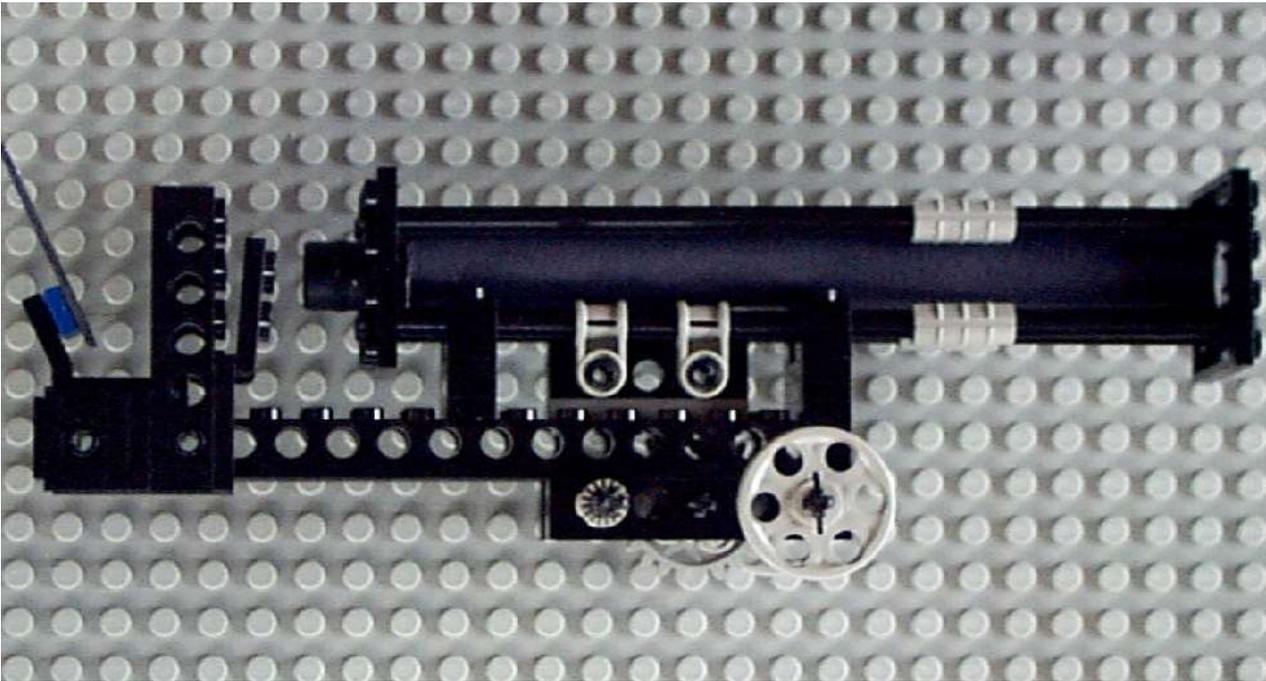
THE SPECIMEN ILLUMINATION MIRROR



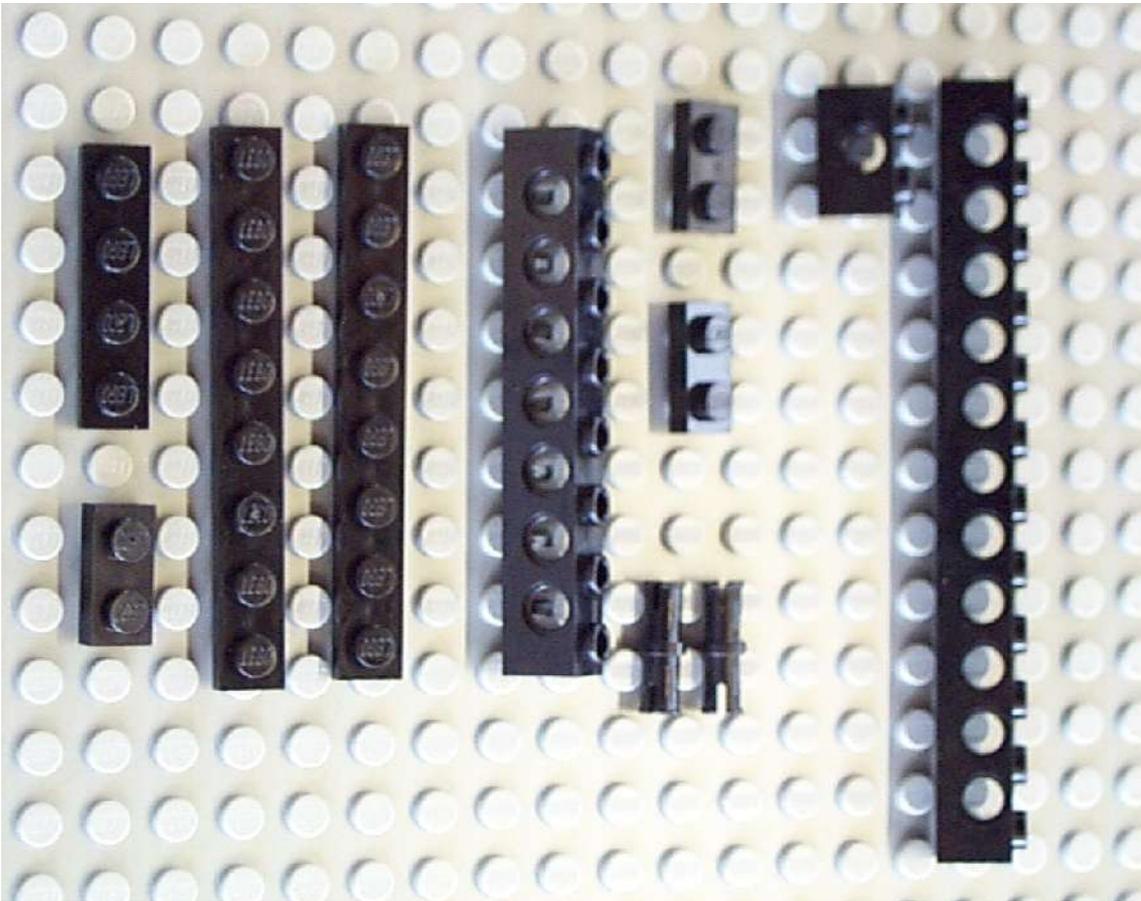
THE COMPLETE STATIVE

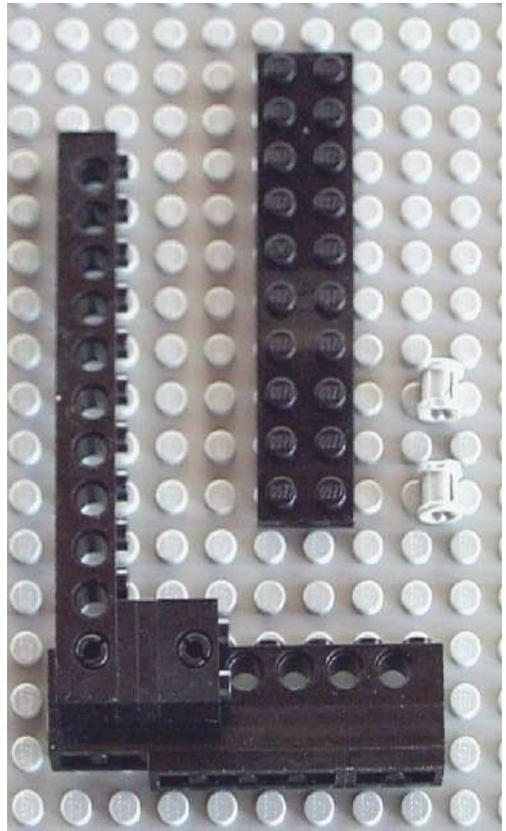
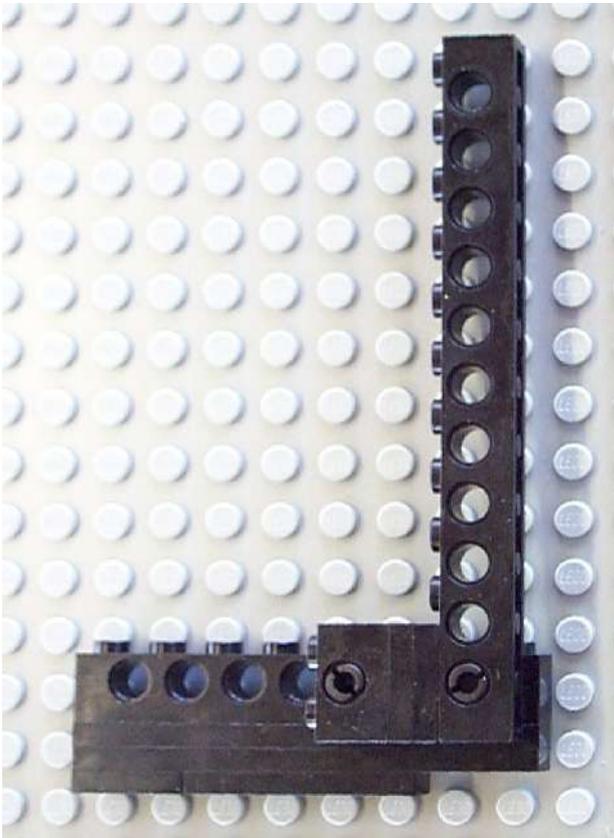
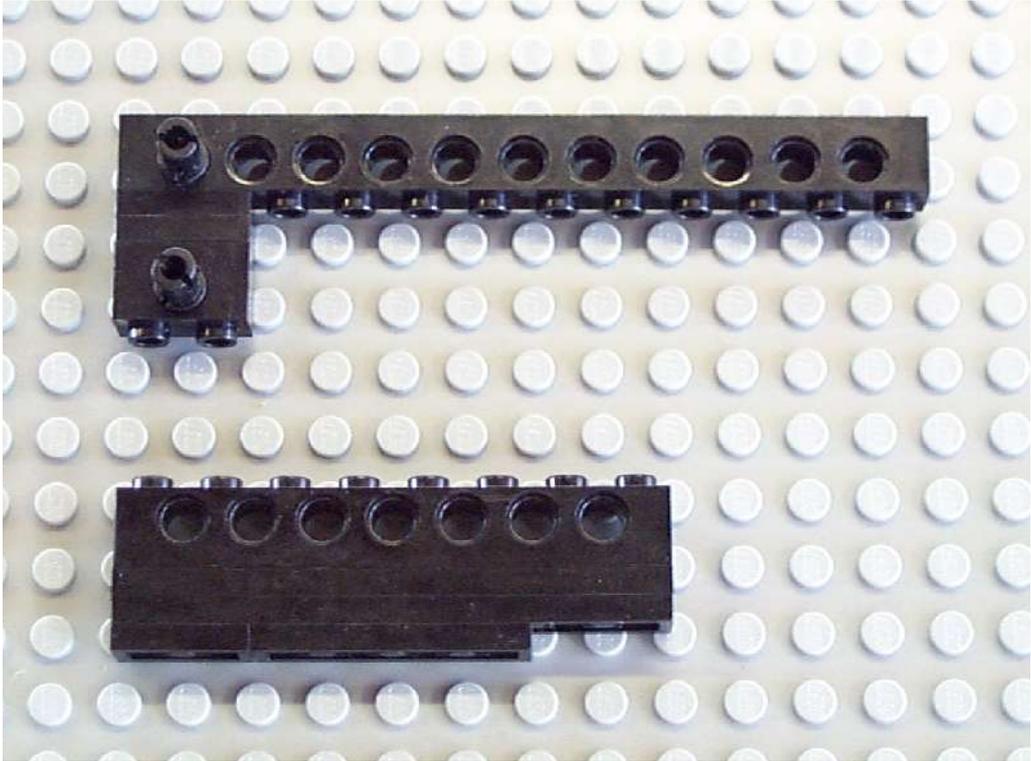


THE STATIVE WITH THE MICROSCOPE TUBE



THE BASE







COMMENTS AND CONCLUSIONS

The objective lens used in the present apparatus was a micro video lens which can be purchased from Edmund Optics:

<http://www.edmundoptics.com/onlinecatalog/Browse.cfm?categoryid=1445&level=2>

An improvement of this set up could be the use of the LEGO cam.

A different microscope set up was realized, but we have no documentation about that. In 2003 we made a little exhibit for the first edition of “Festival della scienza” (Genoa 2003). In that occurrence we realized a microscope using Mindstorm technology with the RCX computer (ver. 1) and the Lego cam.

One motor was used to change the specimen among a set of 6 slides. Another one changed the focus. The third RCX output was connected to a lamp to illuminate the specimen.

Two touch sensors were used at the focus travel ends to sense the out of range. A third sensor was used to correctly position the specimen slide. The image from the Lego cam was sent to a PC which also controlled the whole instrument using a custom software developed in Visual Basic. In this application we used the RCX brick like a control interface (much like the 1093 LEGO Interface).