

HOW TO BUILD A BIG PLYWOOD DEMONSTRATOR

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Introduction

This demonstrator is designed and constructed by Sakari Ekko after the original idea presented in the workshop 2 of NASE. Some details and a possibility to go to the Tropic of Capricorn are added.

Look at the photos. The material for the demonstrator is mainly 6.5 mm Baltic birch plywood or similar first grade plywood. A band saw, drill and belt sander is needed, plus the normal hand tools found in every home workshop. First, project photo 12 on a sheet of paper using a beamer. The length of the ruler in the figure is 45 cm.

Draw the parts on the paper and saw them (except the half-circle) of plywood with the band saw, make three pieces of the stand's vertical part and saw away a part of it to make a channel for the Sun circle. Glue the parts together, leaving the channel free. To saw the circular parts, make a jig of a sheet of chipboard and attach it on the band saw platform. Drill a hole in a sheet of plywood and screw the sheet loosely through the hole in the chipboard at the distance of the intended radius. This way it is easy to saw the circular parts. The dimensions are given in Fig. 1. Make the horizontal part of the stand, gluing together two sheets of plywood, so that it will not bend under the weight of the demonstrator. The figures explain how to make the other parts. The brake for the Sun circle is not necessary; you can use a small wedge, if the circle tends to slip.

Finish the parts with belt sander and sandpaper, varnish them and make the markings with a felt pen after the varnish has dried. The assembly is shown in the photos.

Note: A small led-lamp for the Sun is easy to attach with a small clamp, and the rails and metal sheet conductors are not needed. With some modifications, it is possible to make the demonstrator of Kapa-board that is easy to cut with a hobby knife.

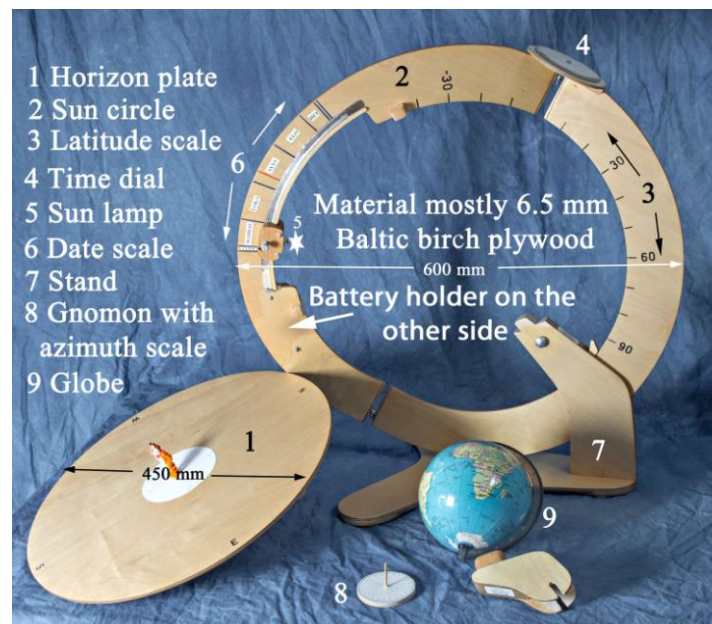


Figure 1

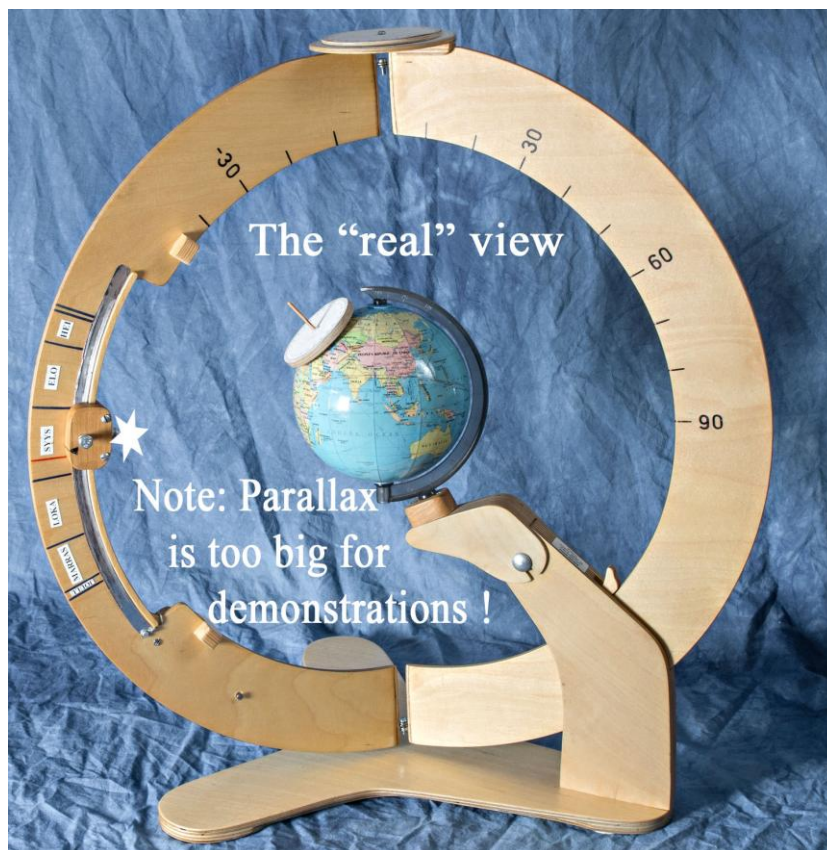


Figure 2

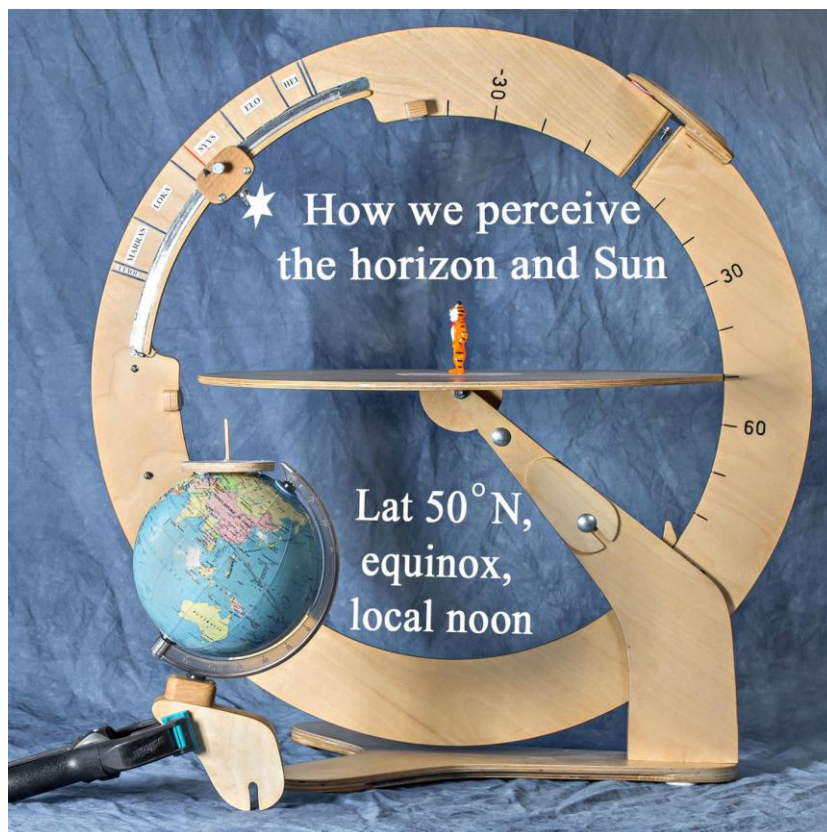


Figure 3

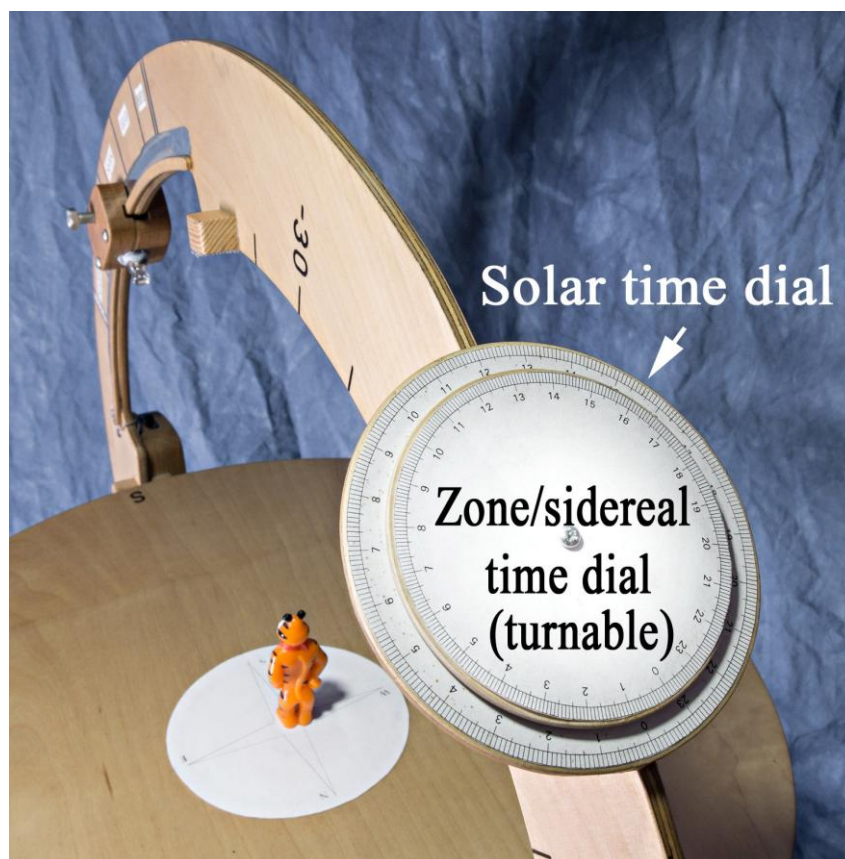


Figure 4

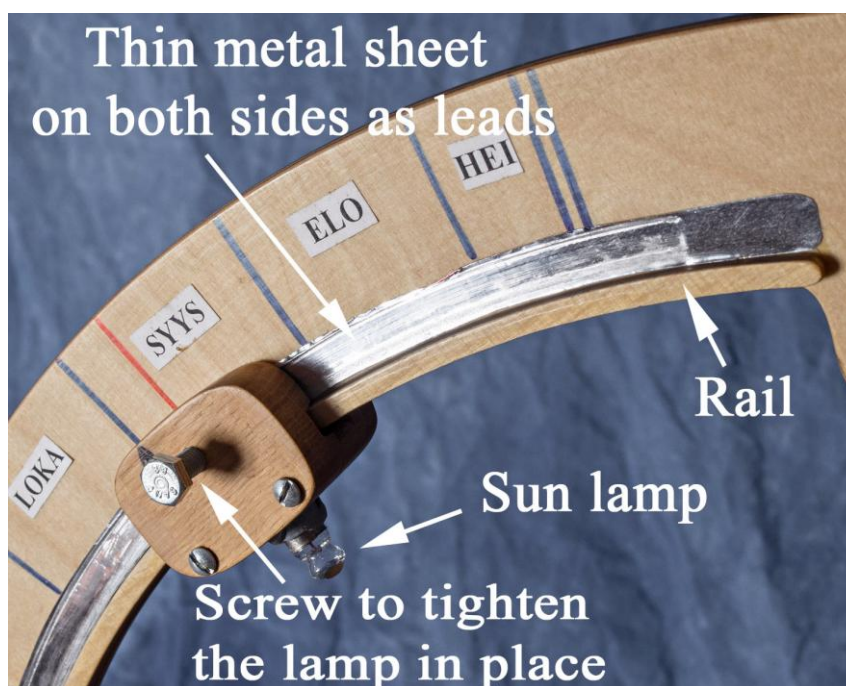


Figure 5

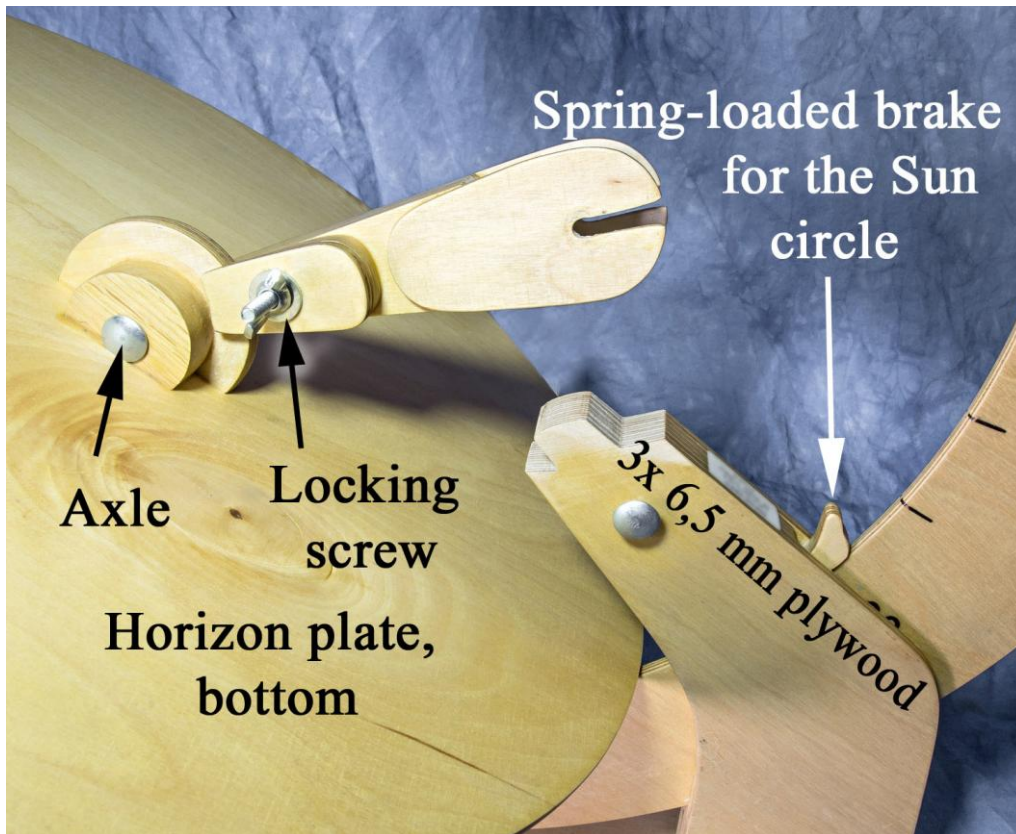


Figure 6



Figure 7



Figure 8

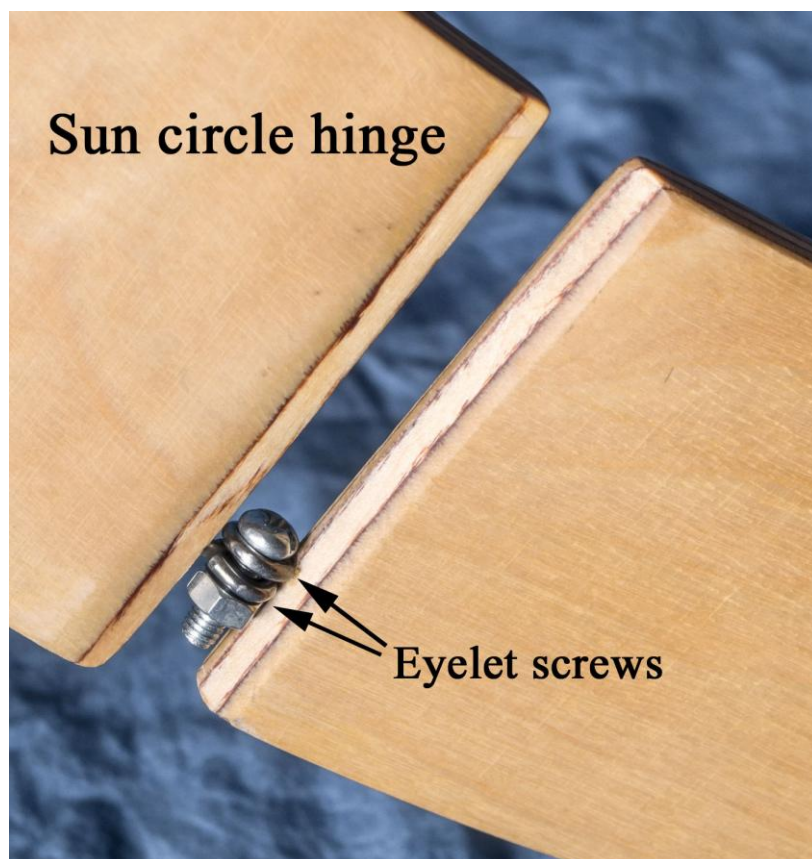


Figure 9

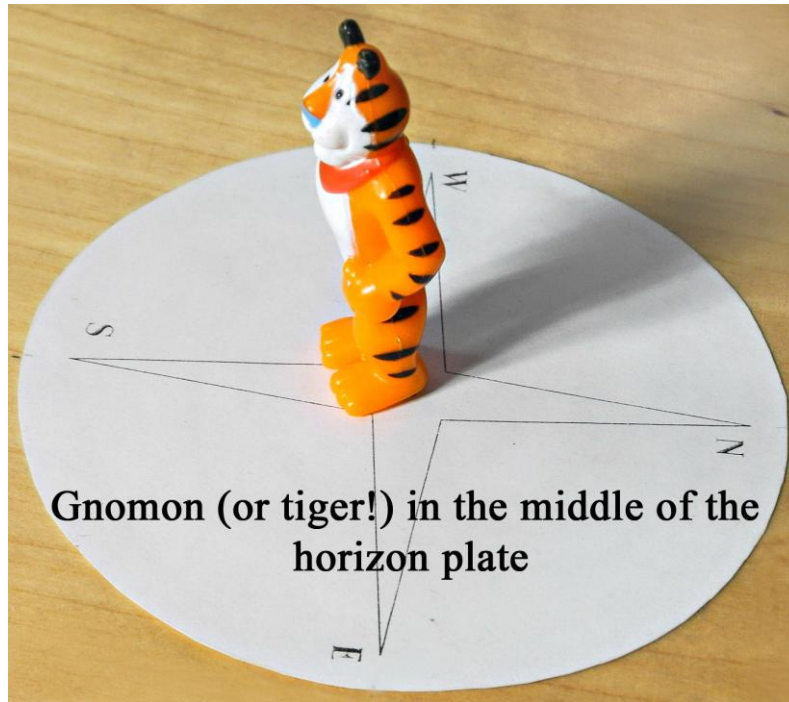


Figure 10

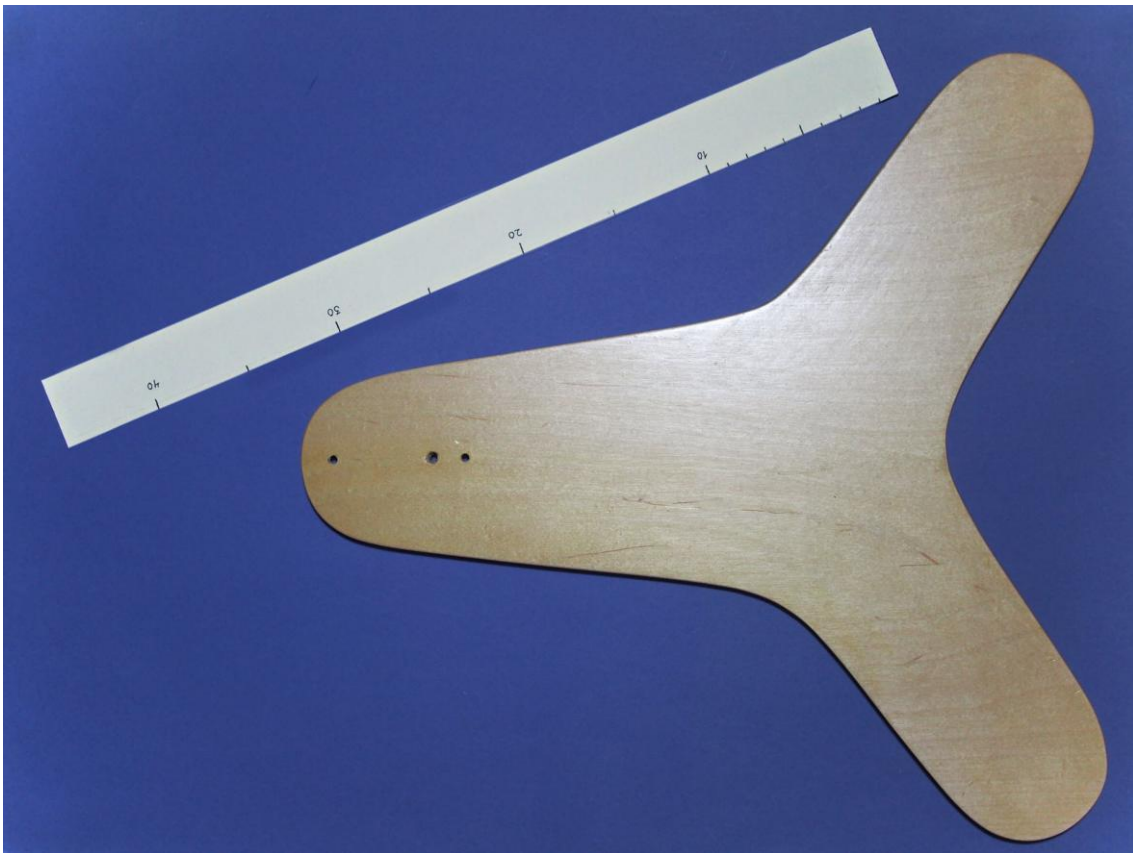


Figure 11

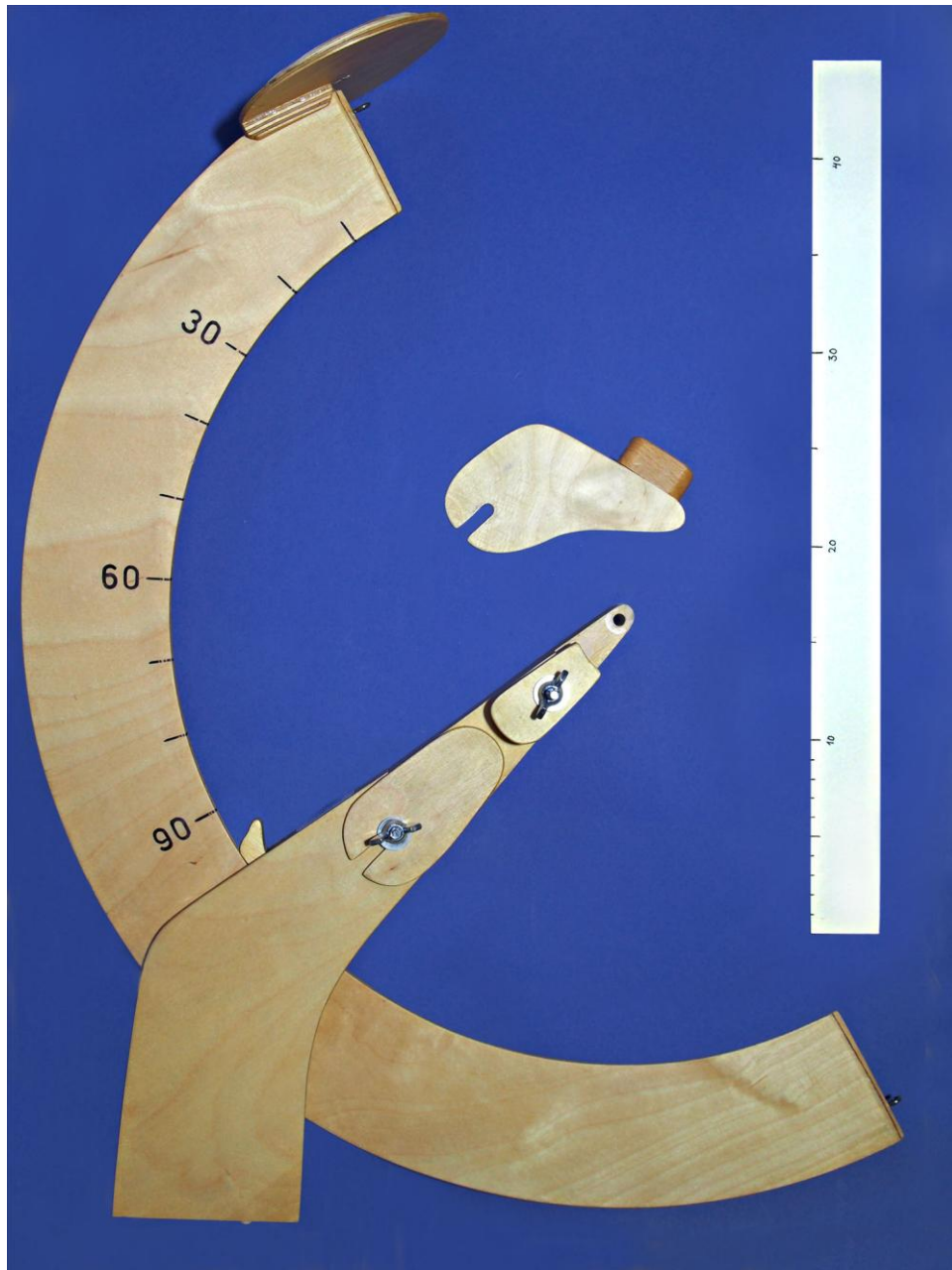


Figure 12

BIBLIOGRAFÍA

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