

Illustrated construction manual: The Jacob's Staff

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<https://michelswunderland.de/solderiron/cross-staff.html>



Unpacked and prepared - cardboard sheets, instructions and equipment.



Further tools:

2-component glue, side cutters and brass rod are used to join the two halves of the body differently from step 2.

Tweezers and screwdriver are used to press on fresh glue in hard-to-reach places.



Step 1: Here we deviated from the building instructions and folded parts A1 and A2 for the body before joining them.





Result after completing **steps 3 and 4** - not for the entire body, but separately for the two halves.

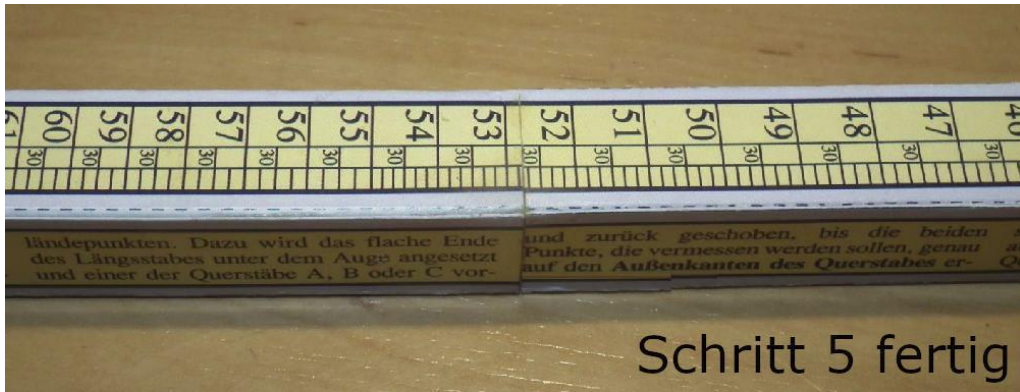
This procedure, which differs from the instructions, was chosen because it is easier to fold and glue the two short parts than to do this with a very long part.





Step 2 of the building instructions describes how to join the two halves of the body, which is done here differently from the instructions using 2-component glue and brass rods. The 2-component glue is applied to the cavities of the ends of the body halves to be joined. Then the 1.5 mm brass rods of approx. 6cm length are inserted into the glue on both sides and the two parts are pushed together to fit exactly. Leave untouched for 20 minutes - done

On the one hand, this procedure simplifies the folding and gluing of the body to a square profile, on the other hand, a higher stability may be assumed than that of a paper connection of the two halves. If you do not have 2-component glue at hand or if you are not familiar with its handling, follow step 2 of the instructions.



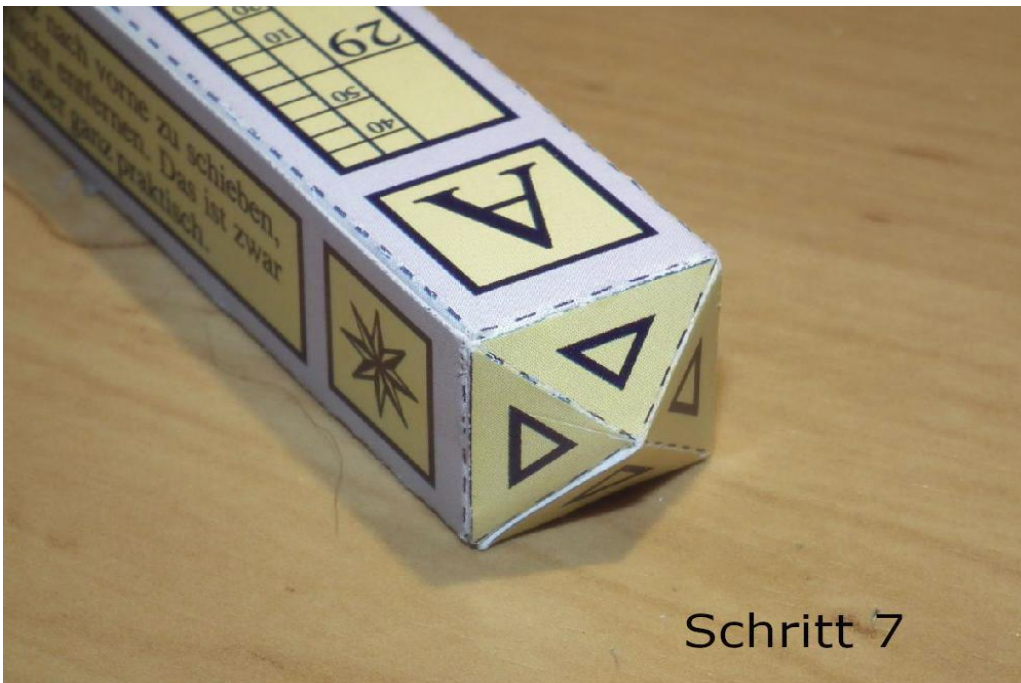
Schritt 5 fertig

After completing **step 5**, the two halves of the body are joined together.

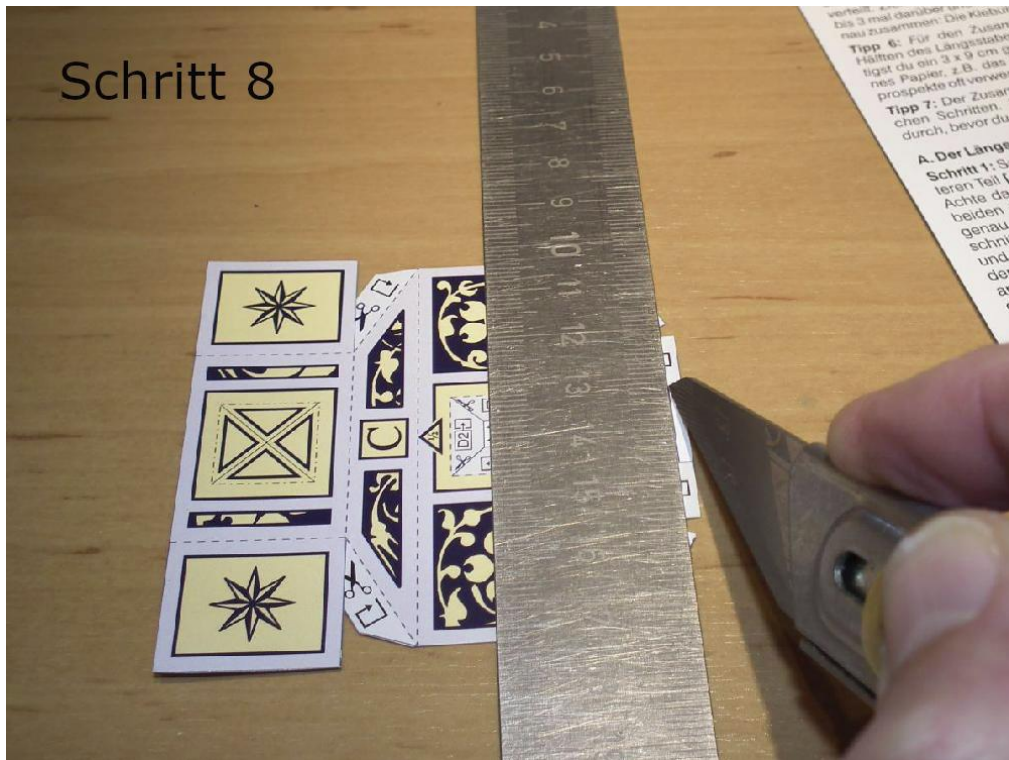


Schritt 6 & 7

In **steps 6 and 7**, the covers for the top and bottom ends are attached.



Schritt 7



In **step 8**, the cut-outs are cut out of the large crossbar through which the body will later be guided. The procedure is shown here using the small crossbar, which was easier to represent photographically.





Schritt 8 & 9

Cut-outs made according to **step 8** and folded according to **step 9**.

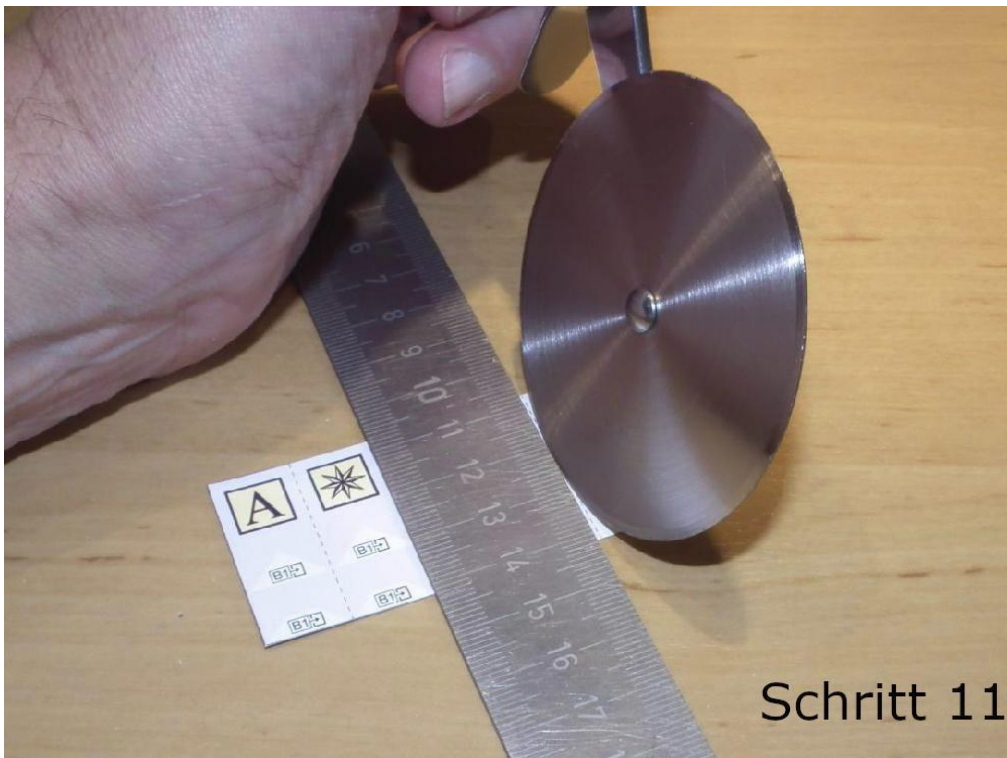


Schritt 9

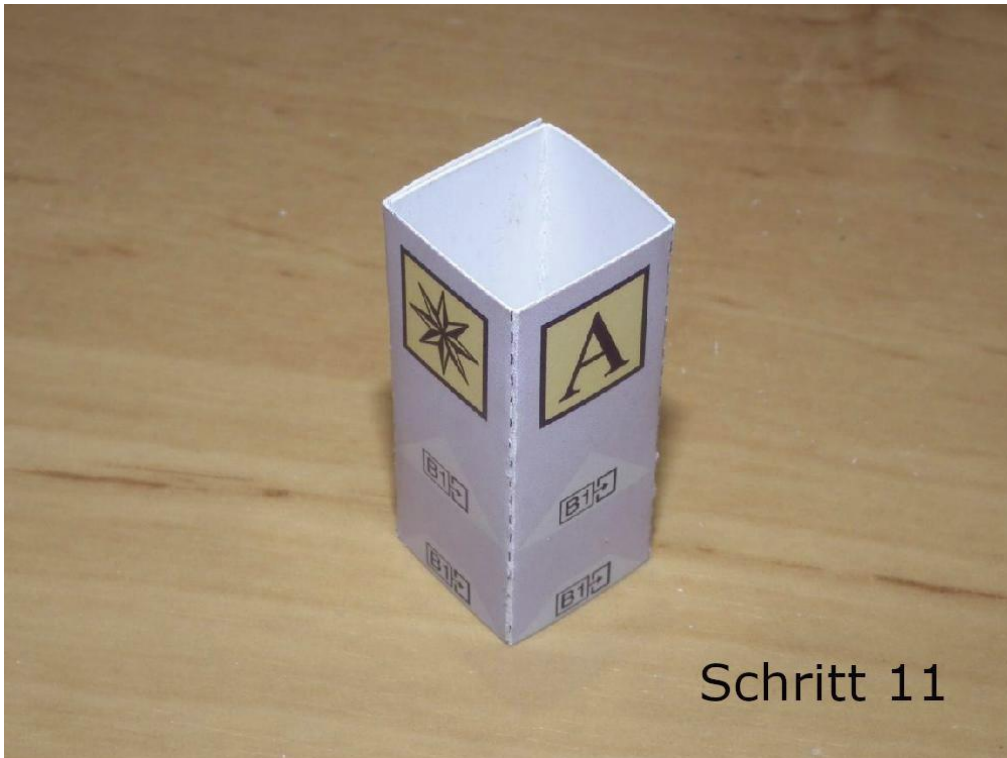
Glue the crossbar according to **step 9**. A screwdriver helps to press the glue inside the crossbar. See also blade tip in the recess.



Step 10 is completed, the large crossbar is finished.



Step 11: The creasing or grooving with a not too sharp pizza cutter of the sliding shoe of a crossbar before folding. The previously folded parts were also subjected to this procedure accordingly.



Schritt 11

A sliding shoe completed according to **step 11**.



Schritt 11

A pair of tweezers is helpful when pressing the adhesions inside the sliding shoe (**Step 11**).

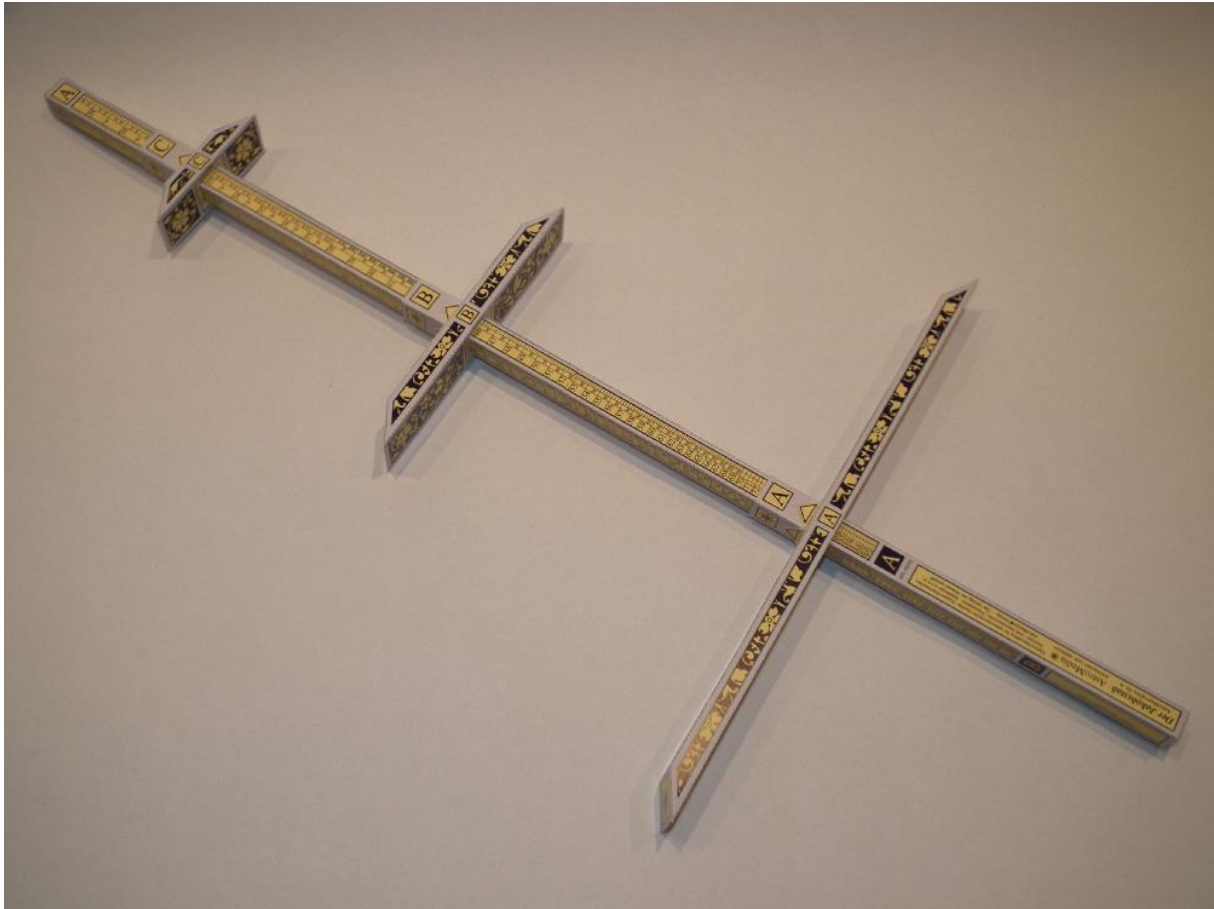


Steps 12 & 13: Mounting of the sliding shoe in the crossbar and preparation for bonding.

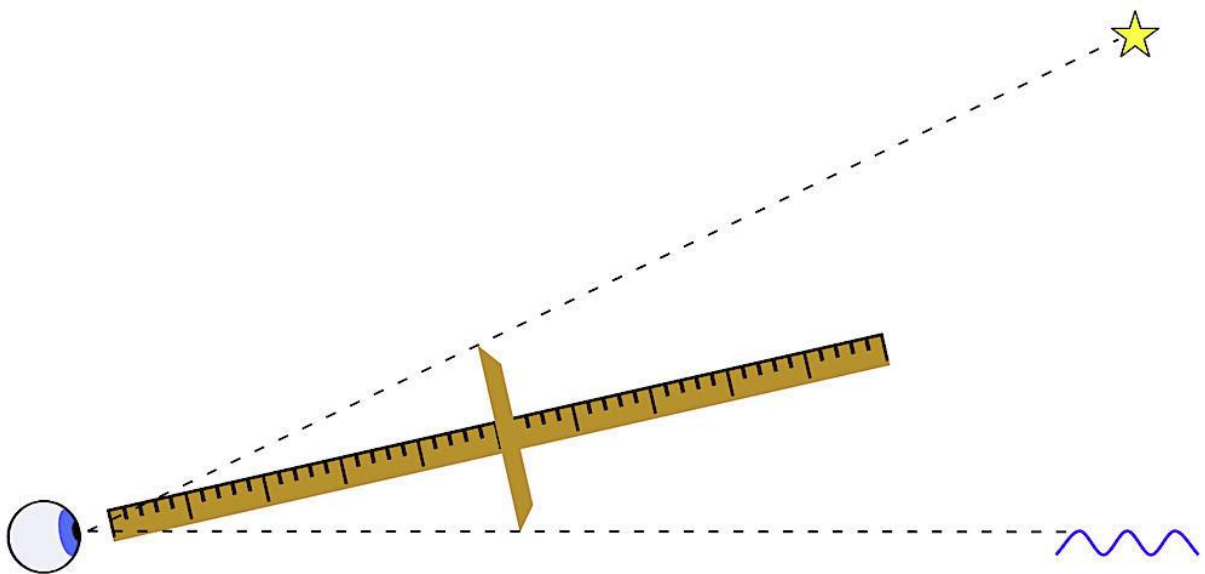


After completing **step 13**, the crossbar and the sliding shoe are glued together.

Steps 15 and 16 for creating the middle and small crossbar are not shown here, as the procedures are identical.



The finished Jacob's staff with its three crossbars, ready for measuring angles according to the following graphical principle:



Depending on the size of the angle to be measured, use the small, medium or large crossbar with the corresponding scale.