

HELPFUL HINTS:

Check all the parts in the trays very carefully. Read the instructions and look at all the diagrams. Get a clear idea of how the parts fit together before you start. Do not glue anything until you are sure you understand how it should be assembled. Remember once something is glued together you cannot go back. Some parts need sanding to get a comfortable fit. Put parts together without glue first to make sure they fit.

Use the wax candle provided to wax all surfaces which are in contact as they move. Apply by rubbing against the wood then buff up to a high polish with the fine sandpaper provided. This will prevent squeaks and allow freer movement of the model. Do not put wax on a surface that is to be glued as the glue will not stick to a waxed surface.

PAINTING TIPS:

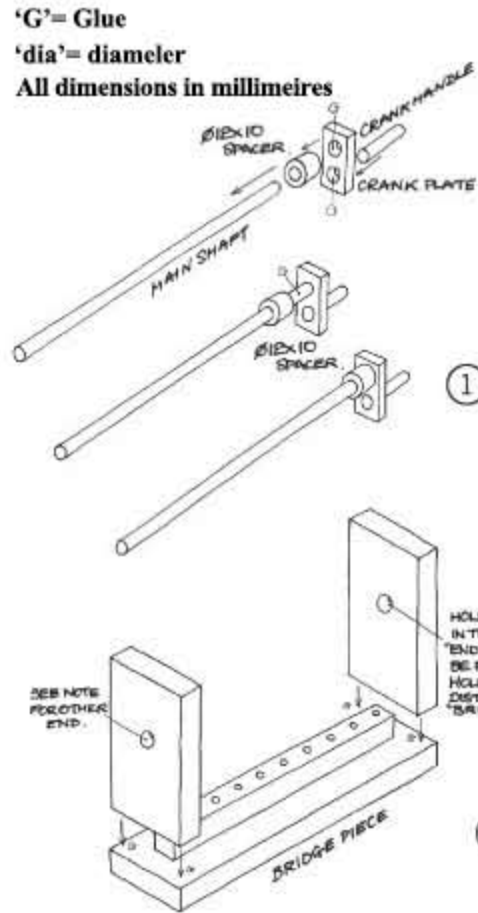
You need to think about painting before you glue everything together. It is easier to paint some parts before gluing but you must also be careful not to paint surfaces which will have to be glued as the paint will affect the strength of the glue.

You don't have to paint everything. Emphasising some parts with colour can be as effective as painting the whole model.

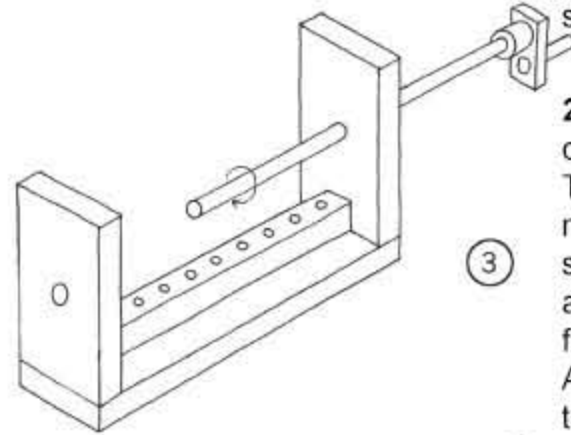
If you find it necessary to colour any parts that move against one another then use felt-tip pens and not paints. The slightest amount of paint around joints can prevent the model from working.

CATERPILLAR
A TIMBERKITS LTD DESIGN

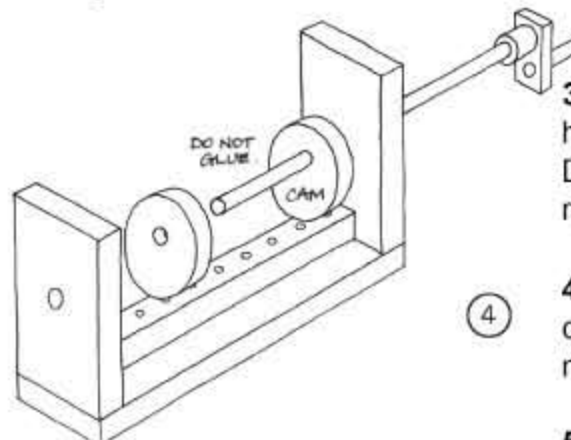
Not suitable for 3 years and under because of small parts.
Suitable for 9 years and over
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Timberkits Ltd, The Old Village Hall, Llanbrynmair, Powys SY197AA
Tel/fax 01650 521635 Web site www.timberkits.com.



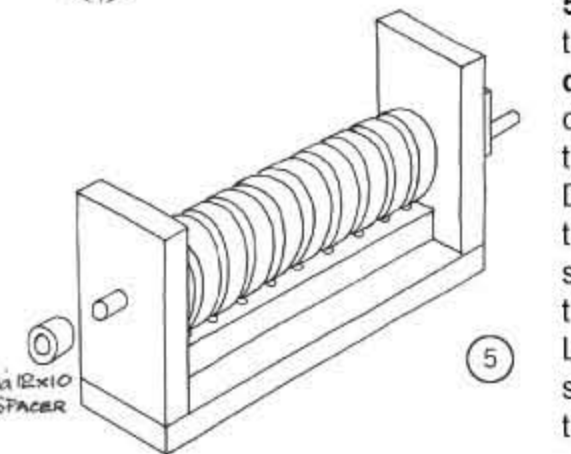
1. Place a dia 12x10 spacer on the main shaft and slide along but do not glue. Put a bead of glue in a hole in the crank plate. Push the main shaft into the hole so that the end of the shaft is level with the other side of the crank plate. Put a bead of glue on the shaft close to the crank plate. Slide the spacer towards the crank plate turning it as you do until it is tight up to the crank plate. Put a bead of glue in the remaining hole in the crank plate and push the crank handle in from the other side until the end is level with the opposite side of the crank plate.



2. Glue the end-pieces onto the bridge piece. The hole is not in the middle of the end-piece so glue it with the hole at the maximum distance from the bridge piece. Allow this to dry thoroughly.

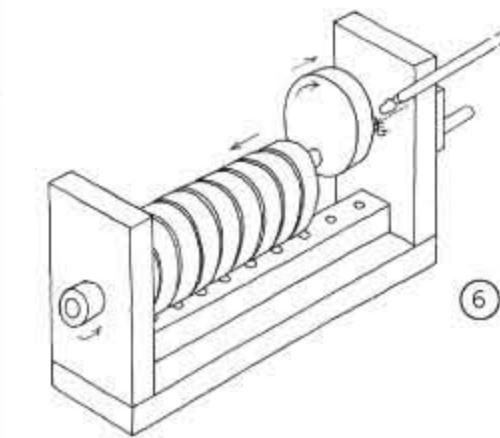


3. Push shaft through hole in one end-piece. Do not glue: this must revolve freely

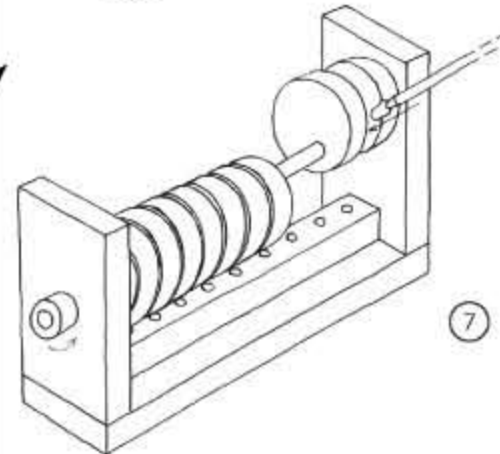


4. Thread all ten cams onto the shaft but do not glue.

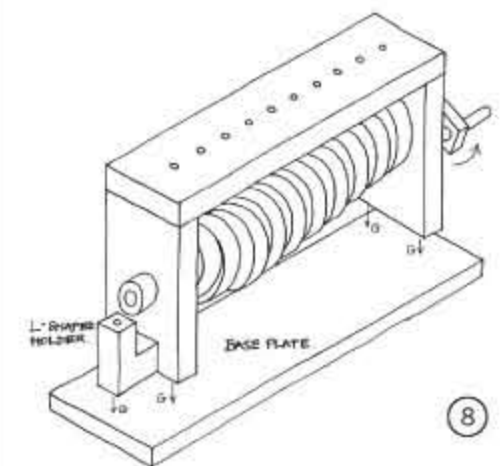
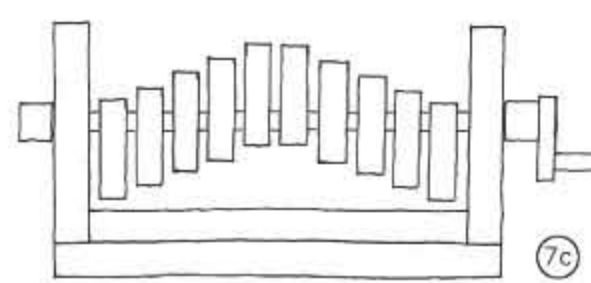
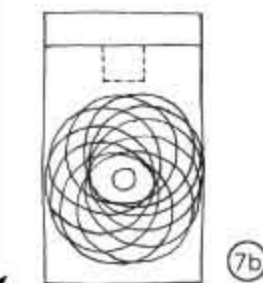
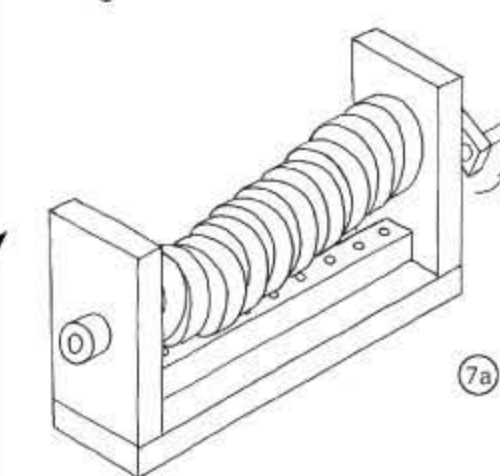
5. Put a bead of glue in the hole in the remaining dia 12x10 space. Push onto the shaft turning the spacer as you do so. Do not push up tight to the end piece and make sure no glue gets into the hole in the end-piece. Leave about 0.5mm space. Let this dry thoroughly.



6. Push all the cams to one end and with a bead of glue on the end of a pointed stick place glue on the shaft between the last cam and the end-piece. Slide the cam over the glue turning the cam as you do so until it is immediately over the end hole in the bridge piece. Let the glue dry thoroughly.

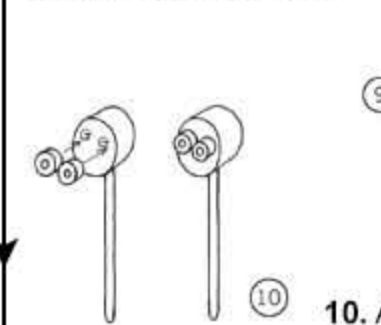


7. The rest of the cams have to be glued in the same way but each one has to be moved round a little so that you form a spiral (see 7a, 7b and 7c). It does not matter how many degrees each cam is set at as long as they are all approximately the same and each over a hole in the bridge piece. The last three cams do not leave much room for applying the glue so put the glue on the shaft for all three cams at once. They should remain moveable for some time so with a bit of patient adjustment it can be done.

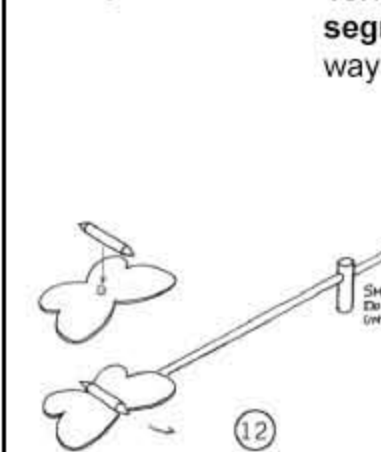


8. When the cams are firmly stuck in place turn the whole assembly up the other way. Glue the L-shaped holder onto the end-piece as shown in the illustration and then glue the whole unit down onto the base plate. Check that the shaft and cams move freely when the handle is turned.

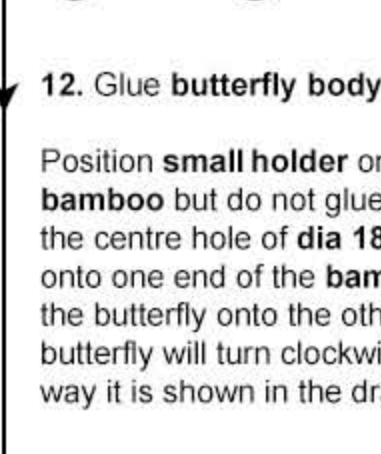
9. Round one end of the push rod very thoroughly with sandpaper. Assemble the eight plain caterpillar segments as shown.



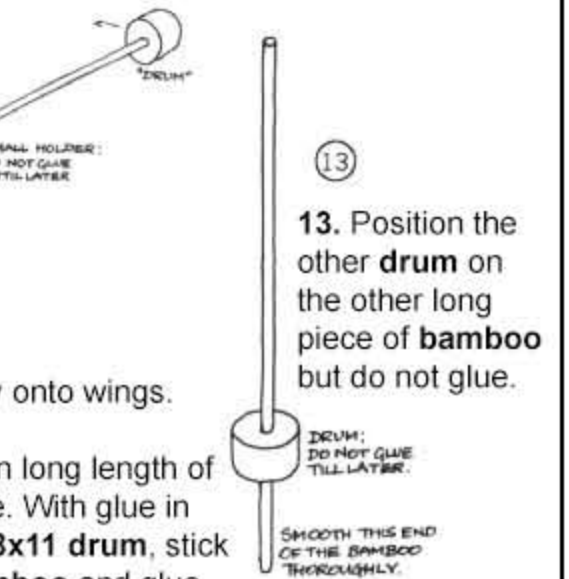
11. Glue together the tail segment as shown below.



10. Assemble the ninth segment in the same way but add the eyes.

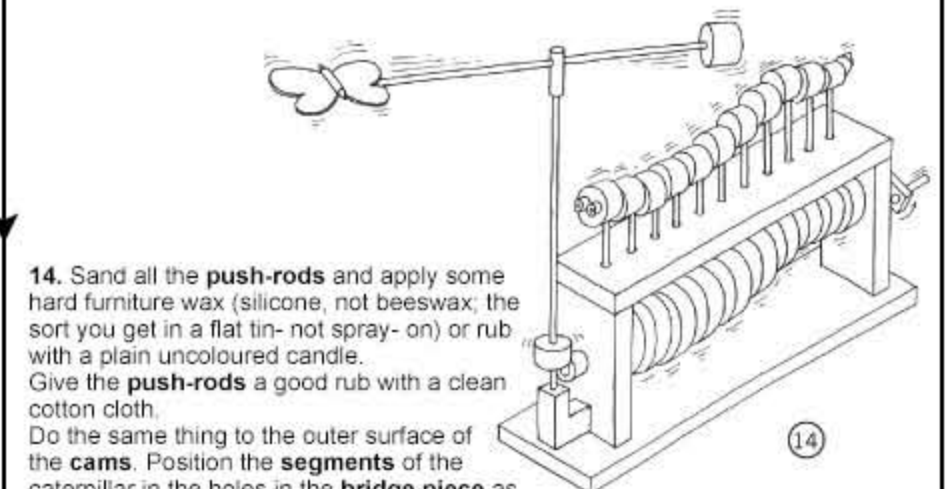


12. Glue butterfly body onto wings.



13. Position the other drum on the other long piece of bamboo but do not glue.

Position small holder on long length of bamboo but do not glue. With glue in the centre hole of dia 18x11 drum, stick onto one end of the bamboo and glue the butterfly onto the other end. The butterfly will turn clockwise, so fix it in the way it is shown in the drawing.



14. Sand all the push-rods and apply some hard furniture wax (silicone, not beeswax; the sort you get in a flat tin- not spray-on) or rub with a plain uncoloured candle. Give the push-rods a good rub with a clean cotton cloth. Do the same thing to the outer surface of the cams. Position the segments of the caterpillar in the holes in the bridge piece as shown. These should drop back down when lifted off the cam surfaces. Position the small holder on the upright.

The lower end of the upright bamboo, beneath the drum, should be smoothed thoroughly with sand-paper. Position the drum so that when it rests on the dia 12x10 end spacer the end of the upright bamboo does not quite reach the bottom of the hole in the L-shaped holder. Glue the drum in this position. Glue the horizontal bamboo into the small holder so that it is well balanced and glue the small holder onto the upright. When the handle is turned the caterpillar segments will move up and down in a wavy line and the butterfly will fly round overhead.