

## Timberkits

Wooden Mechanical Toys and Animated Working Models

### Caterpillar Instructions

7" long x 2 1/4" wide x 7" high

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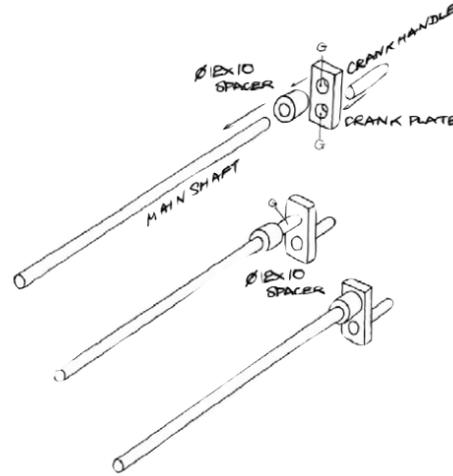
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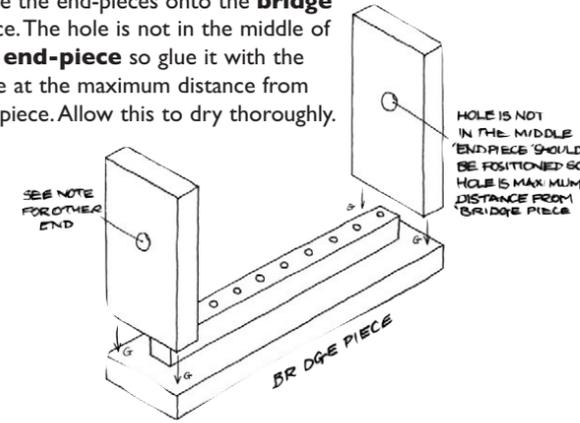
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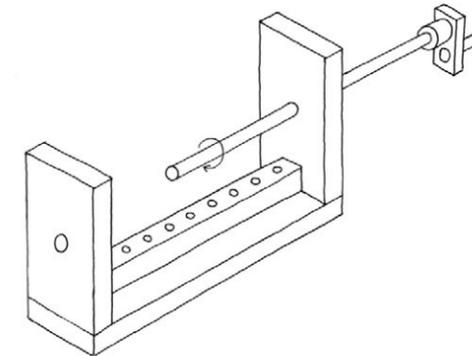
- 1** Place a dia 12x10 **spacer** on the main **shaft** and slide along but do not glue. Put a bead of glue in a hole in the **crank plate**. Push the main **shaft** into the hole so that the end of the **shaft** is level with the other side of the **crank plate**. Put a bead of glue on the **shaft** 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**.



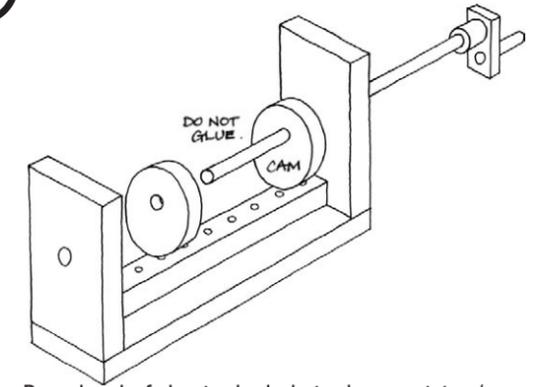
- 2** Glue the end-pieces onto the **bridge** piece. The hole is not in the middle of the **end-piece** so glue it with the hole at the maximum distance from the **bridge** piece. Allow this to dry thoroughly.



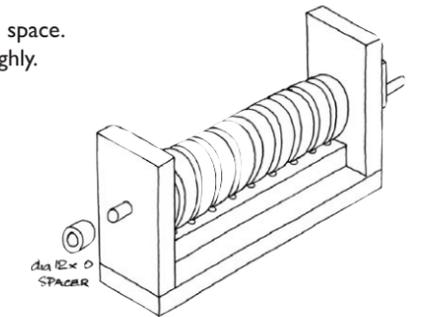
- 3** Push **shaft** through hole in one **end-piece**. Do not glue: this must revolve freely



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

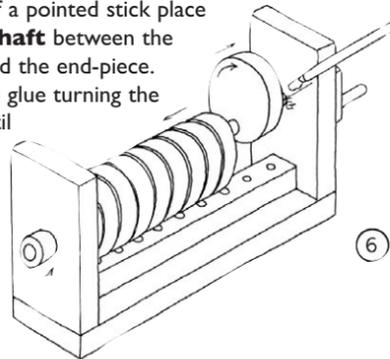


- 5** Put a bead of glue in the hole in the remaining / diameter **12x10 space**. Push onto the **shaft** turning the **spacer** as you do so. Do not push up tight to the end piece and make sure no glue gets into the hole in the end-piece. Leave about 0.5mm space. Let this dry thoroughly.

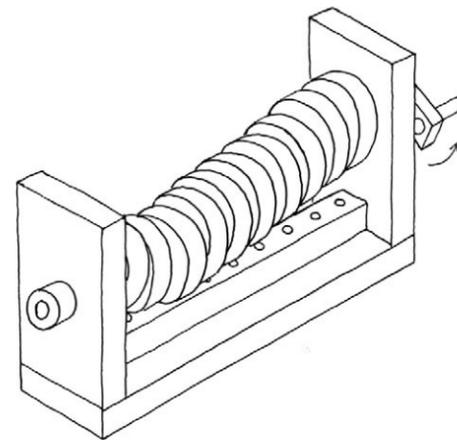


- 6** Push all the **cams** to one end and with a bead of glue on the end of a pointed stick place glue on the **shaft** between the **last cam** and the end-piece.

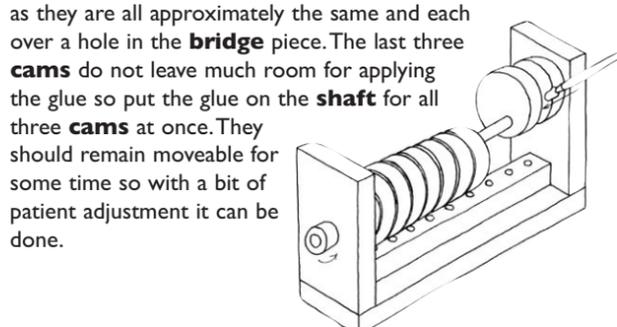
Slide the cam over the glue turning the **cam** as you do so until it is immediately over the end hole in the **bridge piece**. Let the glue dry thoroughly.



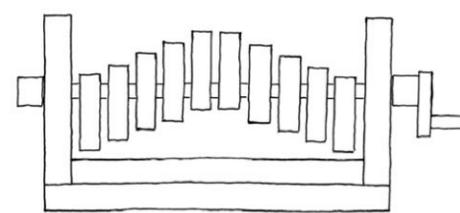
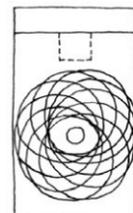
**7a**



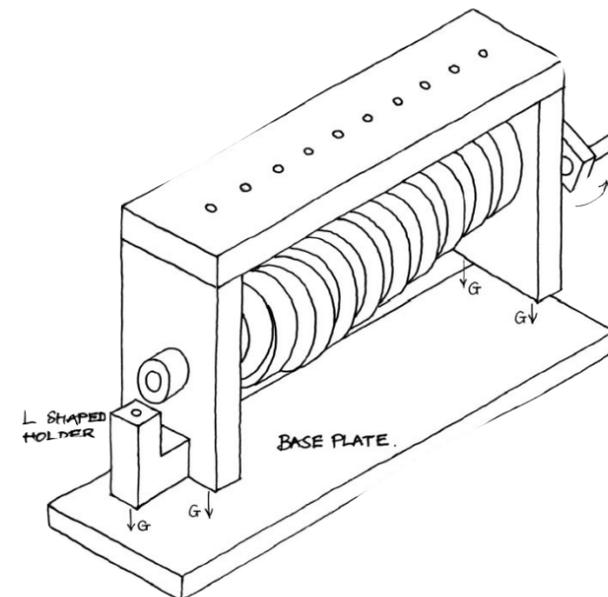
- 7** The rest of the **cams** have to be glued in the same way but each one has to be moved round a little so that you form a **spiral** (see 7a, 7b and 7c). It does not matter how many degrees each cam is set at as long as they are all approximately the same and each over a hole in the **bridge** piece. 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.



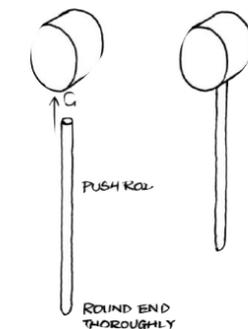
**7bc**



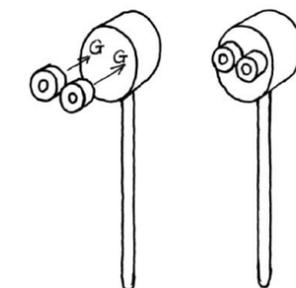
- 8** When the **cams** are firmly stuck in place turn the whole assembly up the other way. Glue the **L-shaped holder** onto the end-piece as shown in the illustration and then glue the whole **unit** down onto the **base plate**. Check that the **shaft** and **cams** move freely when the **handle**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



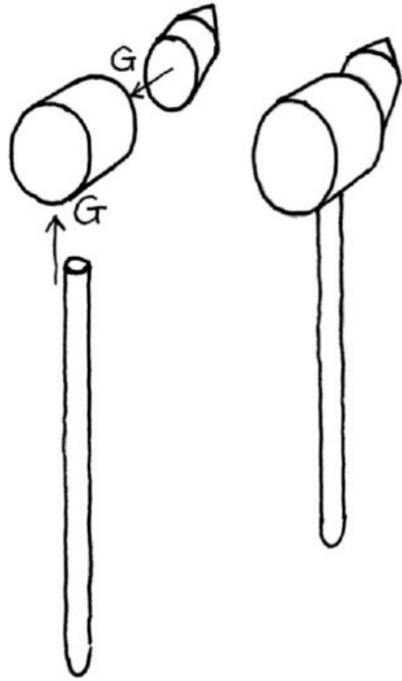
- 9** Round one end of the push **rod** very thoroughly with sandpaper. Assemble the eight plain caterpillar **segments** as shown.



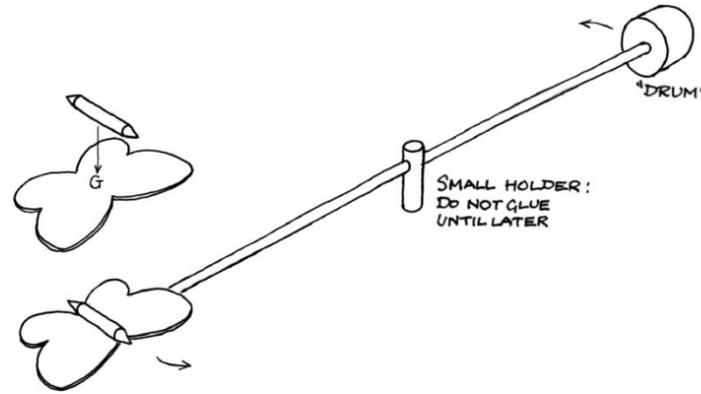
- 10** Assemble the **ninth segment** in the same way but add the eyes.



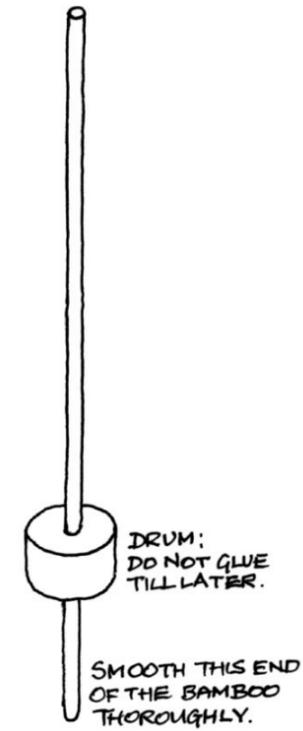
**11** Glue together the **tail segment** as shown below.



**12** Glue butterfly **body** onto **wings**. Position **small holder** on long length of bamboo but do not glue. With glue in the center 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.

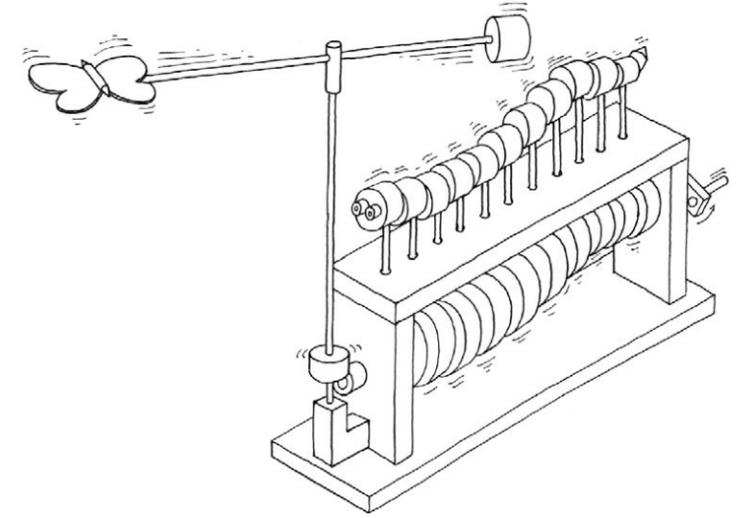


**13** Position the other drum on the other long piece of bamboo but do not glue.



**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.



#### HELPFUL HINTS:

Check all the parts in 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 work. 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 things together without glue first, to make sure they fit.

To stop the wood from squeaking when it is moving use a little silicone wax (the kind you apply on a cloth, not a spray which stays sticky). Wax surfaces which are in contact as they move. Remember if you get wax in the wrong place, glue will not stick to that surface. If you color your model do not get paint on any surface which moves against another.