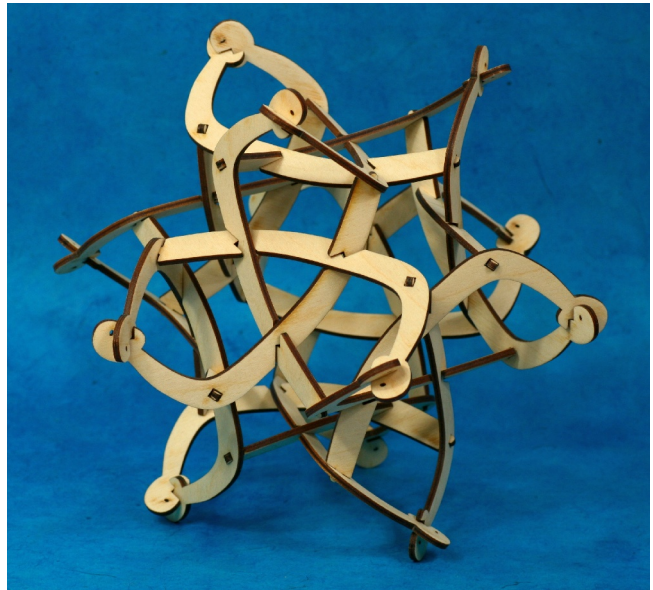


Kissing Puzzle

George Hart

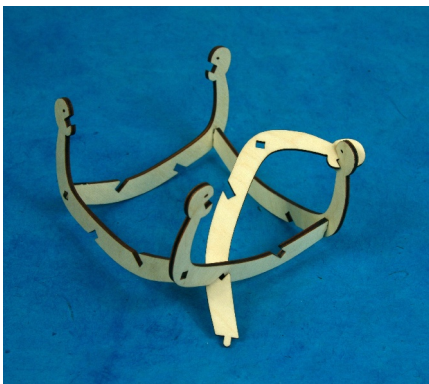
3-Dimensional Assembly

Laser-cut Baltic birch plywood

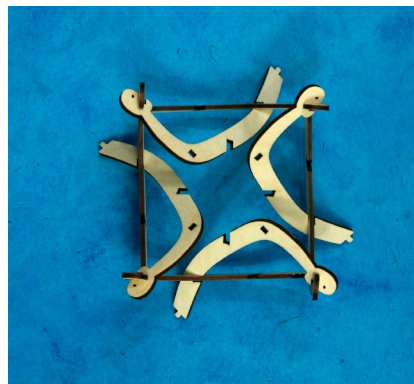


Objective: Assemble 24 identical components into a symmetric structure.

Solution:



1. Make a square of four parts, inserting tails into holes in a cycle. Add a fifth part connecting mouth to mouth and notch to notch. The parts flex just slightly, so springiness and friction hold it together.



2. Continue adding three more parts similarly, to correspond with this image when seen from above, looking down on the original square. Note that an “up-notch” always connects to a “down-notch”.



3. Continue adding parts one at a time, with tail-to-hole squares, mouths to mouths, and up-notches to down-notches. Above, it is half done (12 parts), after which it is easy to continue following the pattern.

4. At every step, check each tail is fully in its intended hole, each notch fully mates its partner notch, and each head-to-head kiss is intense. Only a slight flex is needed to insert the final parts, so be careful not to snap anything. Though it all tends to fall apart in the initial stages, it is extremely stable when complete. Notice there are six squares, but they are not arranged edge-to-edge like the six squares of a cube!