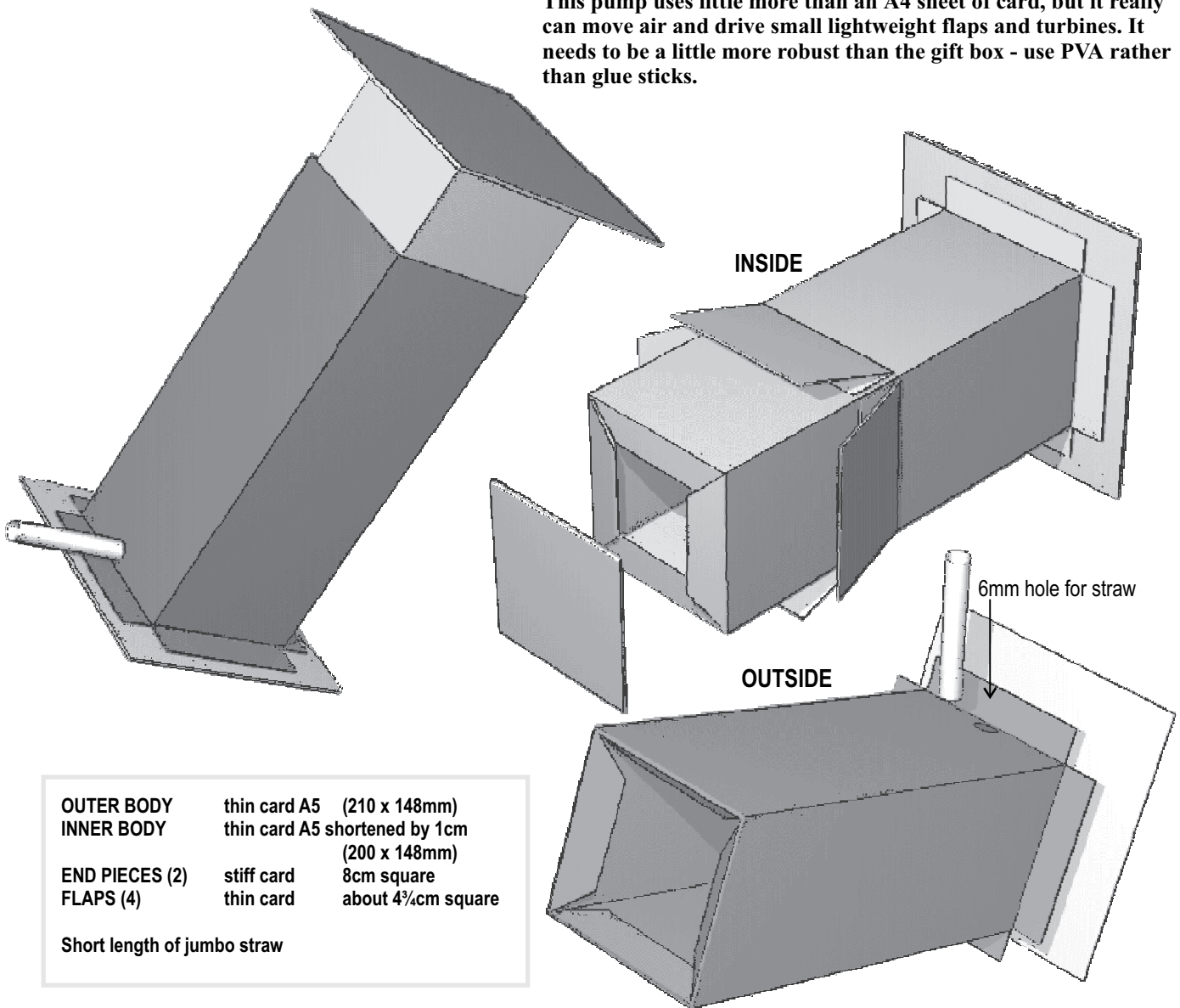


Another application of the 'BOXING CLEVER' building system.

This pump uses little more than an A4 sheet of card, but it really can move air and drive small lightweight flaps and turbines. It needs to be a little more robust than the gift box - use PVA rather than glue sticks.



**IMPORTANT - Visit the BOXING CLEVER pages for detailed box-making instructions. (Page 32)**

- Follow box-making instructions but SCORE BOTH LONG SIDES. The ends are larger and should be made from stiff card.
- **OUTSIDE** (longer card) - Make as instructed but cut top tabs at 45° and fold inwards. The tabs will stiffen the top edge and make it harder for air to escape.
- Punch 6mm hole at the bottom of one side (for the straw air outlet) BEFORE fitting the thick card end piece.
- **INSIDE** (shorter card) - Make as instructed but cut top tabs at 45° and fold inwards as above. Glue a small card square to these tabs. Remember this section has to fit inside the other, so do not let this square project past the edges of the box. (Too small is better than too large!) Fit this end BEFORE fitting the thick card end piece. This will enable you to press the tabs from the inside with a ruler or piece of wood.
- The flaps are optional, but they will increase the efficiency of the pump. The idea is that when you operate the pump, air is forced under the flaps. This presses them against the body sides.
- Once all the glue has dried, VERY CAREFULLY push the smaller outer section into the larger body. Make sure the flaps go in edge first. Operate the pump gently at first - is there air coming out of the punched hole?
- If all OK then glue outlet straw in the hole.