Pressure-Based Paper Cutter

Idea:

This design aims primarily to use pressure and hand-tearing to create complex shapes. It was inspired by the cutting technique pictured right. Note how the torn section exactly replicates the edge texture of the ruler.	

Proof of Concept:

I chose to cut out a key because the numerous sharp corners make it a challenge. Also note that the composite cut below is more precise than the basic key cut, this is because there is a very slight learning curve (what angle to tear from).	
By using the same shape multiple times, much more complex composite shapes can be formed. I was worried at first that the crown shape on the challenge page would be impossible using this design, it definitely is not.	

Shape creation:

In order to cut, we first need a shape to cut from. I'm thinking of drying putty, something like Milliput. Using putty, the shape possibilities are nearly limitless! When creating, the only real limitation would be that the shape needs to be flat. Once that putty was shaped, it would take a few hours for it to harden into a permanently reusable form.

Cutting Process:

I used a clamp to hold the key down. A small clamp would make accurate tearing significantly easier, as it not only secures the shape but also frees up a hand. By moving the clamp to tear different areas (to minimize moment inside the putty), you could also totally alleviate any mechanical failures the putty may have otherwise encountered.	

What the kit would contain:
It would contain a small clamp, a 10x10 cm hard plastic sheet (to clamp the shape and paper to), a container of quick drying putty, instructions, and a few demo shapes.

Conclusion:
This pressure-based paper cutter not only allows for nearly infinite variation in cut-out shapes, but it also makes cutting out the components more fun. There is a slight learning curve, and cutting out components does take slightly more time (key cuts took roughly 30 seconds each), but I think that both of these issues are far less important than the near-infinite variability and complete safety this product offers (no blades!).