We present a piecewise isometric immersion of a bounded region of $\mathbb{R}^2$ into $\mathbb{R}^3$ (i.e., an origami fold) that is non-flat (the image does not lie in a plane, or more precisely the immersion is injective), is triangular (the maximal isometric regions in the immersion are all triangles), and locked (the folded image cannot be rigidly unfolded back to a flat plane). Such immersions were previously not known to exist and are of interest in architecture and industrial design. (Received September 17, 2013)