

# UNFOLDING A CARPENTER'S RULE AND SOME CONSEQUENCES

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ABSTRACT. Suppose a polygonal chain is embedded in the plane. Can you straighten this chain without creating any self-intersections and keeping each edge of the chain straight without changing its length? For some years, various configurations of chains were proposed to be locked, but ultimately they could be opened. In 2000, Erik Demain, Gunter Rote and I showed that any such chain could be opened using tools from rigidity theory. Since then there have been several applications to other circumstances such as opening chains of polygonal bodies. Examples will be shown. Seeing is believing.