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Charles R. Egedy* (cegedy1@lsu.edu), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *The Second Homotopy of Line Arrangements via Pictures.*

We give a new description of the picture group and show how to use pictures to define maps between second homotopy groups of line arrangements. The set of finite line arrangements has a partial ordering with the property that if $\mathcal{A} > \mathcal{B}$, then the maps are well-defined homomorphisms from the second homotopy group of the complement of \mathcal{A} to that of \mathcal{B} . If additionally $|\mathcal{A}| = |\mathcal{B}|$, then the homomorphisms are injective. (Received January 31, 2008)