ABSTRACT

Narrow cavity rail guns with: a power rail proximal each edge, a wall conductor assembly in each cavity wall there between with barrel bus at one rail and extending therefrom to distal contact means at the cavity, an array of parallel, spaced, cavity orthogonal wall conductors. Armatures used therein have: a propulsion bus orthogonal the cavity axis with continuity the barrel bus proximal power rail at one end and propulsion bus-aft shunt circuit means the other, and forward and aft current shunts on both armature sides. Propulsion bus-aft shunt circuit means and aft shunt-forward shunt circuit means co-act with said assembles and shunts and said power rails to circulate the gun's current around both sides of the armature propulsion bus and the magnet fields of segments of said circuit interact with the current in the propulsion bus creating forces therein propelling the armature through the barrel cavity.