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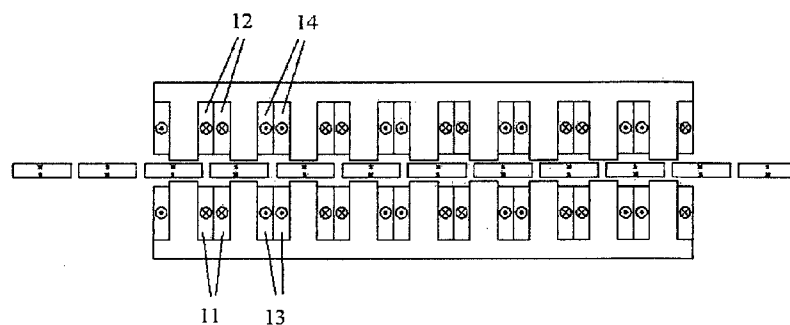


Fig 4

(57) Abstract: An improved high force linear motor system comprising a linear motor with a first coil assembly, a second coil assembly and a plurality of magnets forming a row of magnets. The row of magnets is positioned between the first coil assembly and the second coil assembly, wherein the first coil assembly is aligned along the length of the row of magnets, and the second coil assembly is aligned along the length of the row of magnets. Both coil assemblies are symmetrical about a center mirror line formed by the row of magnets. Consequently, the force of attraction between the row of magnets and the first coil assembly is completely balanced by the force of attraction between the row of magnets and the second coil assembly. An improved high force linear motor system in a XY table such as in wire bonding applications is also described.