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(54) **Title**: LINEAR COMPRESSOR BASED ON RESONANT OSCILLATING MECHANISM

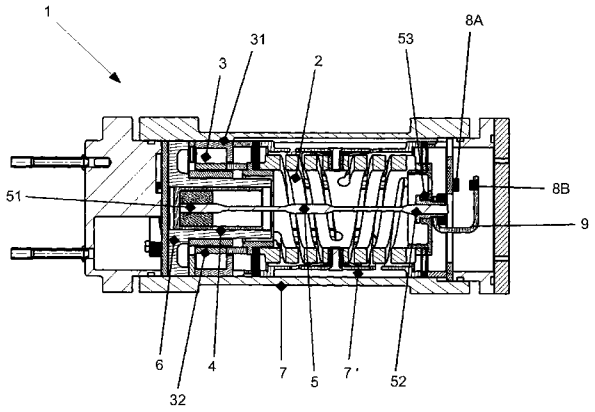

FIG. 3

(57) **Abstract**: The present invention refers to a linear compressor based on resonant oscillating mechanism, which is comprised by at least one resonant spring (2) at least one linear motor (3) composed of at least one fixed portion (31) and at least one movable portion (32), at least one piston (4) operatively associated with at least one rod (5) and at least one cylinder (6), all these elements being disposed within a housing (7), and the movable portion (32) of the linear motor (3) is physically associated with one end of the resonance spring (2) through a first coupling assembly and the rod (5) is physically associated with the opposite end of the resonance spring (2) through a second coupling assembly. The linear motor (3), the cylinder (6) and the piston (4) are physically arranged within a same end of the housing (7). The rod (5) is disposed within the resonant spring (2). The piston-cylinder assembly (4, 6) is capable of acting at the distal end to the coupling end between the rod (5) to the resonant spring (2).

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