This paper introduces the problem of passive control of a chain of N identical masses in which there is an identical passive connection between neighbouring masses and a similar connection to a movable point. The problem arises in the design of multi-storey buildings which are subjected to earthquake disturbances, but applies in other situations, for example vehicle platoons. The paper studies the scalar transfer functions from the disturbance to a given intermass displacement. It is shown that these transfer functions can be conveniently represented in the form of complex iterative maps and that these maps provide a method to establish boundedness in N of the H_∞-norm of these transfer functions for certain choices of interconnection impedance.