This is a preliminary report on lower bounds for the first eigenvalue of the vibrating clamped plate under constant compression, in the context of geometric considerations for plates of different shapes. In mathematical terms, the problem is that of bounding the first eigenvalue of a certain 4th order partial differential operator with leading term the bi-Laplacian from below by a positive constant over the square of the area of the domain. In parallel with the case of the vibrating membrane with fixed edges, the sharp result of this type (saturated for a disk) will be called a Rayleigh-Faber-Krahn-type inequality. We present a Rayleigh-Faber-Krahn-type result for the vibrating clamped plate under compression which holds for small enough compression. (Received January 27, 2014)