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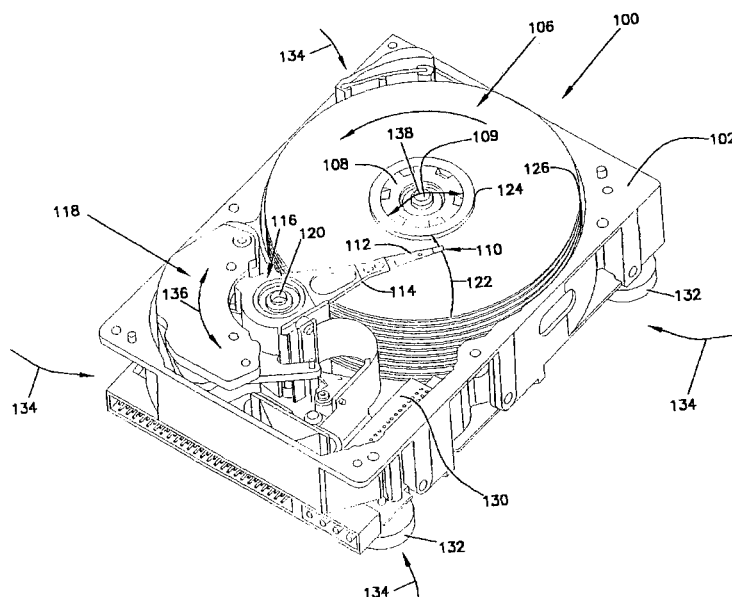
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(54) Title: PROCESS FOR DESIGNING AN OPTIMAL VIBRATION ISOLATION MOUNT FOR A DISC DRIVE



$$H = \begin{Bmatrix} M^{-1}B \\ M^{-1}K \end{Bmatrix} \quad (I)$$

(57) Abstract: An optimal vibration mount (132) for a disc drive (100) is designed by computing external, Ξ , and internal, Θ , disturbance models for the disc drive and defining an inertia matrix, M , for the disc drive. A state estimator, such as a Kalman filter, is defined based on the inertia matrix and external and internal disturbance models, and a covariance matrix, Σ , is derived based on the filter algebraic Riccati equation. The state estimator gain, H , is calculated from $\Sigma(I\ 0)^* \Theta^{-1}$, and the optimal mount damping, B , and stiffness, K , parameters are derived from the state estimator gain and inertia matrix, $H = (a)$.

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