

ABSTRACT

LOADING MECHANISM WITH LINEAR GEAR BAR FOR AN OPTICAL DISC DRIVE

A disc loading mechanism for a optical disc drive. The loading mechanism includes a chassis, loader tray, a linear gear bar, lifter, motor, gear train, and a sub-chassis. The pivoting sub-chassis, which supports an optical reader, rotates around a fixed axis and has 1-degree of freedom. The loader tray is slidably attached to the chassis such that it can move from a fully out-position, the position where a disc would be loaded, to a fully in-position, the position where the optical reader would engage the disc. The linear gear bar has a long rigid body with gear teeth along the length of its body. It is slidably attached to the loader tray and performs multiple functions including facilitating the movement of the loader tray, the lifting of the sub-chassis, and the timing of the loading mechanism.

FIG. 1