IMPROVED CARTRIDGE-LOADING APPARATUS WITH TILTING BIAS COIL ASSEMBLY

ABSTRACT

The mechanism for loading and unloading a disk cartridge uses two sliders (one on each side of a base plate), which move in opposite directions under the influence of a tiller. Each slider has a slot to receive one of the two lifting pins provided on the cartridge receiver. The movement of the sliders drives the lifting pins along the slots, thereby raising or lowering the cartridge receiver depending upon the direction of rotation of the tiller. The sliding motion of the lifting pins engaged in the S-shaped slots thus unloads a disk from or, alternatively, loads the disk onto the drive spindle. As the lifting pins travel along their respective slots, the lifting and lowering of the disk is accomplished in such a manner that the disk hub is peeled from the spindle magnet rather than being lifted vertically off the spindle. This reduces the peak force required to break the magnetic clamp force between the spindle magnet and the disk hub. In this system, the dust door is attached to the cartridge receiver, and the label end of the loaded cartridge remains visible when the disk is loaded. This system may include a bias coil assembly rotatably mounted on an arm so that the bias coil assembly may be loaded into or extracted from the disk cartridge and placed out of the travel path of the disk cartridge. The rotation of the bias coil arm is effected by one of the sliders.

Figure 1