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United States Patent [19]

McAllister

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[54] **RESILIENTLY BIASED PARKING SEAT FOR RECEIVING THE LEADER PIN OF A SINGLE REEL TAPE CARTRIDGE**

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[22] Filed: **Jul. 22, 1998**

[51] **Int. Cl.^{6}** **G11B 23/037**
[52] **U.S. Cl.** **242/348.2**; 242/332.4
[58] **Field of Search** 242/348, 348.2, 242/248.3, 332.4, 332.7, 332.8

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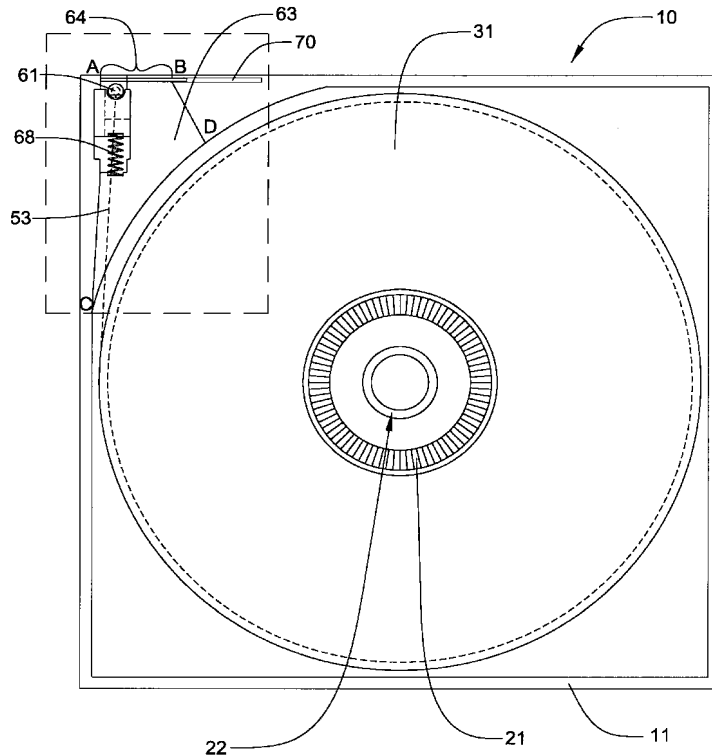|			
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Primary Examiner—John P. Darling

[57] **ABSTRACT**

A resilient parking seat for the leader device of a single reel tape cartridge is provided which works in combination with a tape supply reel lock having discrete, evenly-spaced locking positions. The parking seat includes a cradle assembly, which is shaped to receive the leader device. The cradle assembly, mounted in a recess within a tape access port in the cartridge housing, is linearly slidable between two limiting positions along a path that is approximately coincident with that of the tape as it enters or exits the cartridge housing. The cradle assembly is biased with at least one biasing spring in a tape exiting direction, so that when the tape is completely rewound into the cartridge, the leader device enters the access port, makes contact with the cradle assembly, causing the cradle assembly to slide within the recess and compress the biasing spring(s). Compression of the biasing spring(s) is maintained by a rewind mechanism of a tape drive as the reel lock is engaged. Linear travel of the cradle assembly is sufficient to overcome any slack that might ordinarily be introduced into the tape by disengaging the cartridge from the rewind mechanism. The resilient parking seat also reduces the shock forces to which the tape is subjected as the leader device slams into the parking seat at the end of a rewind operation. A large portion of the momentum of the spinning supply reel loaded with the rewound tape and of the leader device is absorbed by compressing the biasing spring(s), momentum which would otherwise be absorbed by stretching the tape.

20 Claims, 6 Drawing Sheets

Fig. 1

Fig. 2

Fig. 3

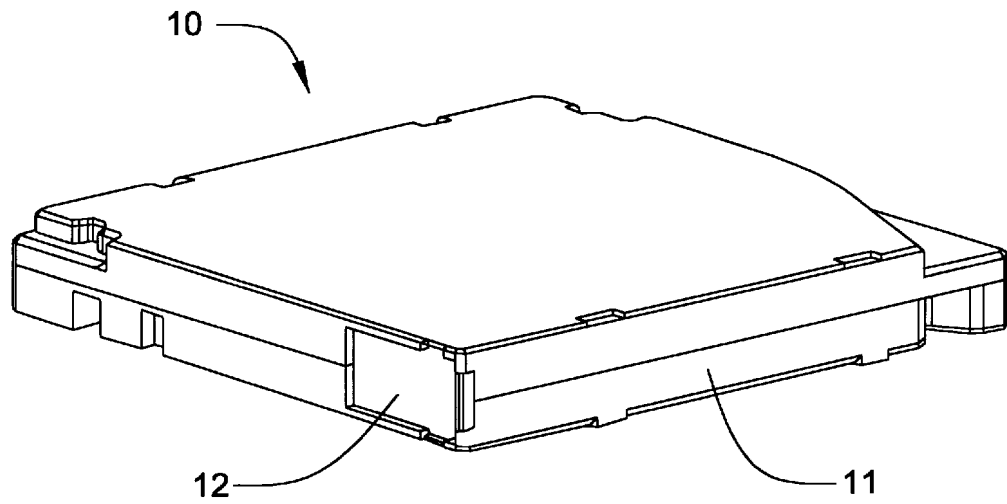

Fig. 4

Fig. 5

Fig. 6

DOCKET ALARM
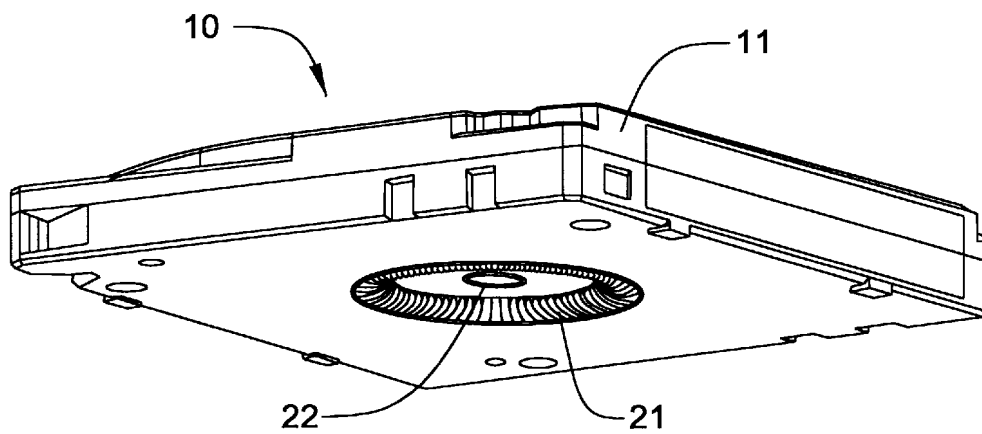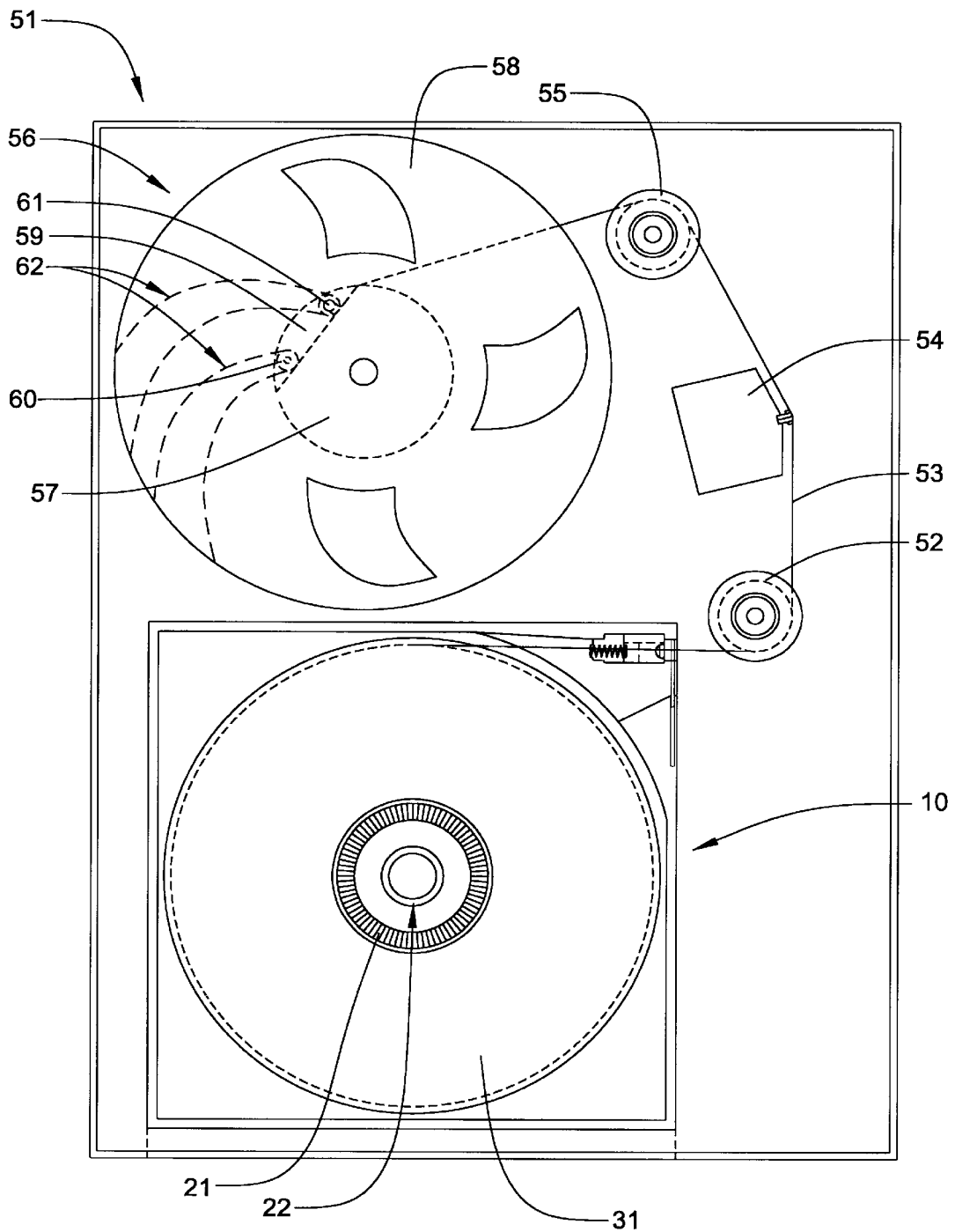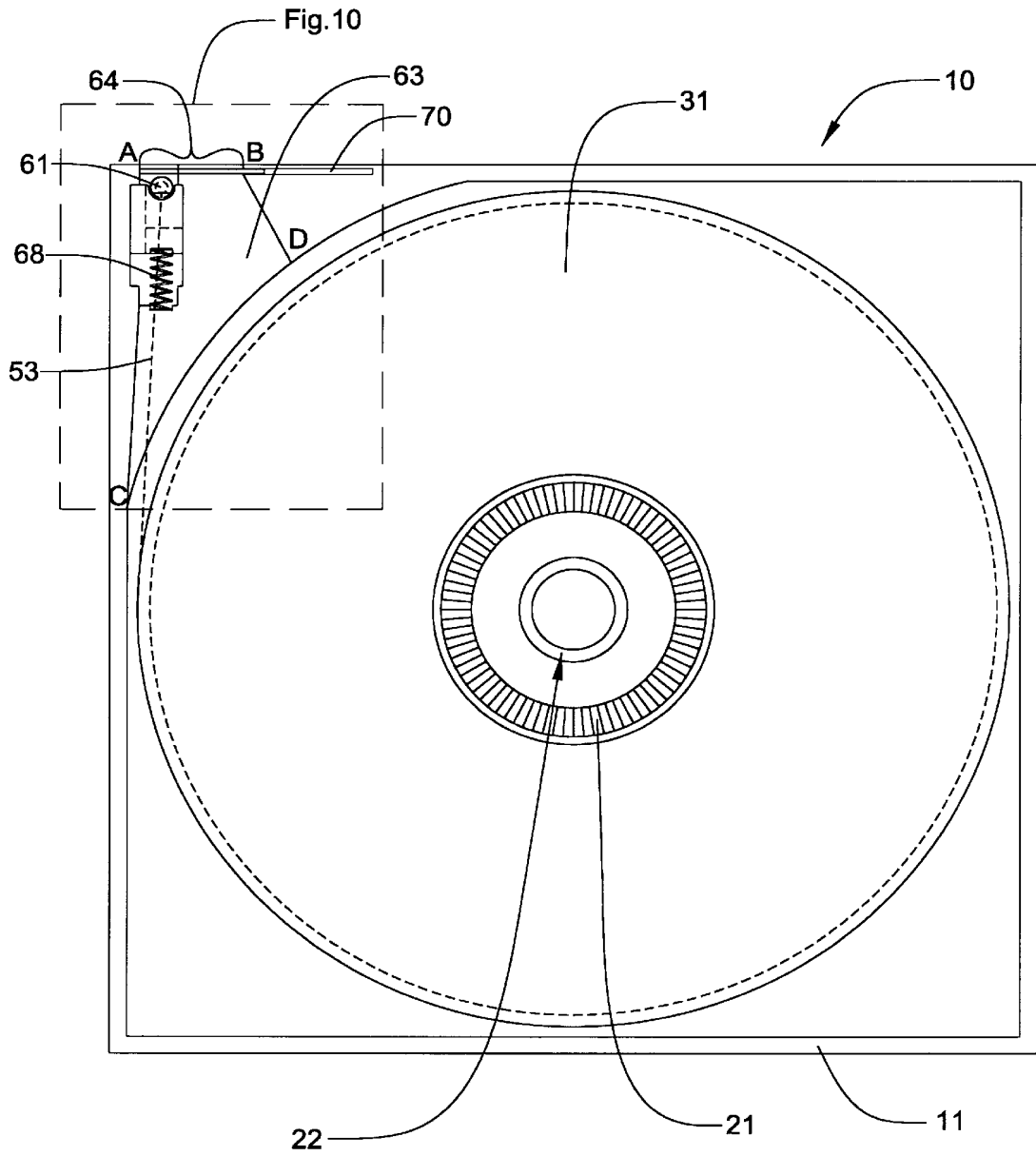
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