DIRECT ACCESS DISPENSING SYSTEM

[0001] This application claims priority to U.S. Provisional Patent Application Serial No. 61/421,056, filed on December 8, 2010, the entire contents of which are incorporated herein by reference.

[0002] The present invention is directed to a dispensing system, and more particularly, to a dispensing system that provides a user direct access to the items being dispensed.

BACKGROUND

[0003] In industrial workplaces, assembly operations, maintenance and repair operations, institutions, healthcare facilities and other environments, workers often have a recurring need to access and replenish their supplies. Historically, the worker would leave his or her work area, walk to a tool crib or store room, and request the desired item from the tool crib attendant or storeroom clerk. The tool crib attendant would write down the request, manually pick up the desired item from a shelf, and hand it to the worker. The worker would then return to his or her work area with the requested item, and the attendant would then enter the dispensing event into a record-keeping system. The procurement or purchasing department of the company would typically manually check inventory levels to determine when new supplies needed to be ordered.

[0004] However, such a system is time consuming and inefficient since the worker loses productivity by walking to and from the tool crib or storeroom and waiting for the attendant to get the supplies. In addition, the attendant would often manually write down the request and enter the request/dispensing event into a computer system, requiring extra labor and increasing the chances of human error. The tool crib attendant's duties also incur additional labor, and the tool crib or storeroom requires extra space. Finally, manually checking inventory levels is a time consuming, costly and error-prone process. This, in turn, requires that inventory levels be increased to provide a buffer inventory or "safety stock" which is costly, inefficient and wasteful. Certain industrial vending systems may address and alleviate some of these issues, but still present various inefficiencies in their use.

SUMMARY

[0004a] According to a first aspect, there is provided an access and storage system comprising: a storage component configured to store an item therein or thereon, wherein said

item is storable in more than one of a plurality of storage positions, wherein said storage component is configured to provide a user direct manual access to said item in said storage position; and a sensor system configured to track at least one of a user's removal of said item from an associated storage position or replacement of said item to the associated storage position, wherein said sensor system operates independently of any sensor component secured to said item, wherein the system is configured such that said item residues in its storage position prior to said user identifying the item or attempting to access the item until such time that said user directly manually accesses said item in its storage position.

[0004b] According to a second aspect, there is provided a method for operating an access and storage system comprising: providing a storage component storing items therein or thereon, each item being stored in an associated storage position and being storable in more than one of a plurality of associated storage positions, wherein said storage component provides a user direct manual access to at least some of said items in their storage positions, wherein the storage component includes a sensor system configured to operate independently of any sensor component secured to the items, and wherein the system is configured such that each item residues in its associated storage position prior to said user identifying the item or attempting to access the item until such time that said user directly manually accesses said accessed item in its storage position; and tracking, via the sensor system, at least one of a user's removal of items from one of the plurality of storage position or replacement of items to the one of the plurality of storage position.

[0004c] According to a third aspect, there is provided an access and storage system for use with a plurality of items comprising: a plurality of sensors configured to track a user's accessing of each of a plurality of identical items; an identification system for identifying said user, wherein the system is configured such that each particular item to be accessed does not change position from a time said identification system identifies said user until a time said user directly manually accesses said particular item; a storage component storing each of said plurality of items therein or thereon in an associated storage position, wherein said storage component is configured to provide said user direct manual access to said items in said storage positions, which direct manual access is trackable by said sensor system; and a controller operatively coupled to said plurality of sensors, wherein said controller is configured to track levels of inventory of said identical items in said system.

[0005] In one embodiment the present invention is an access and storage system including a storage component configured to store an item therein or thereon in an associated storage