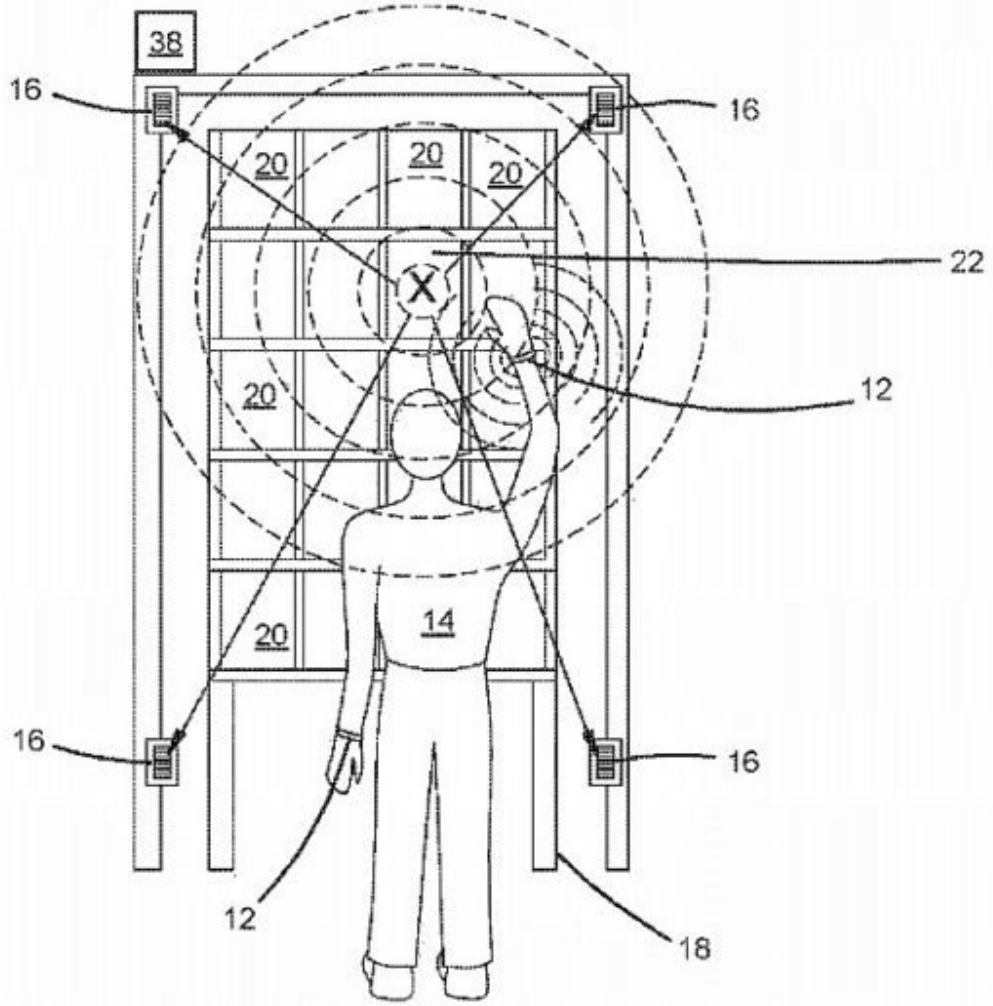
Patent talk: Amazon eyes workers' bands, tracking

February 2 2018, by Nancy Owano



Credit: US 20170278051 A1 Patent

A tisket a tasket, want a green and yellow basket? In 2018, Amazon, kingpin of fulfillment orders, would have to answer, you're kidding. They need to have systems that ensure accuracy, efficiency and leverage the best of appropriate technologies.

Basket drops of products picked off the shelves can hardly be the simple answer in the speed and on the scale required, given Amazon's business today.

"Modern inventory systems, such as those in mail order warehouses, supply chain distribution centers, airport luggage systems, and custom-order manufacturing facilities, face significant challenges in responding to requests for inventory items. As inventory systems grow, the challenges of simultaneously completing a large number of packing, storing, and other inventory-related tasks become non-trivial." This is part of a cross reference section of a patent discussion that is in the news.

Amazon, reported *GeekWire*, *The Verge*, and *The Guardian*, among others, has been granted a pair of patents for wristband tech that can pinpoint the location of warehouse employees wearing the wristbands and track their hand movements.

The concept for bands and haptic feedback tech for monitoring task performance is explored by Amazon. The concept involves a wristband that tracks, with precision, where the employee in the warehouse is putting his or her hands. Vibrations can, if needed, place them in another direction.

The system would involve inventory bins, ultrasonic unit, ultrasonic transducers, and a management module.

GeekWire's patent-spotting report on the wristband was widely cited by

other sites. Alan Boyle,*GeekWire* aerospace and science editor, said, "A diagram shows how an ultrasonic wristband can track a warehouse worker's position in relation to a given inventory bin."

The inventor is listed on the patent filing as Jonathan Evan Cohn.

The Guardian stepped back to walk readers through the general scenario of a day in fulfillment: carrying out repetitive packaging tasks as fast as possible in an attempt to hit goals set by handheld computers.

"When someone orders a product from Amazon, the details are transmitted to the handheld computers that all warehouse staff carry. Upon receiving the order details, the worker must rush to retrieve the product from one of many inventory bins on shelves, pack it into a delivery box and move on to the next assignment."

While many patent wins generally do not evolve to next-stage product launches, here is a case where the patent description teases one into thinking of its use by Amazon. Alan Boyle *GeekWire* aerospace and science editor, wrote, "since Amazon employs tens of thousands of workers at its fulfillment centers, it doesn't take much to guess where the system could be put into effect."

Boyle added, "it could conceivably be picked up for use in the Seattle-based online retailer's hundreds of fulfillment centers."

Bracelets and anklets engineering for tracking might give the general public uneasy feelings of invasive tracking methods. The case is made that the wristband system would be efficient and further ensure correct fulfillments promptly of what you order. It could be step up from existing modes of operation.

The patent discussion: "Existing approaches for keeping track of where

inventory items are stored, however, may require the inventory system worker to perform time consuming acts beyond placing the inventory item into an inventory bin and retrieving the inventory item from the inventory bin, such as pushing a button associated with the inventory bin or scanning a barcode associated with the inventory bin."

The patent discussion said even vision systems have their drawbacks.

"And while the inventory system worker may be required to perform less time consuming tasks when a computer vision system is used to track placement of the inventory item, such a computer vision system may be computationally intensive and expensive. Accordingly, improved approaches for keeping track of where an inventory item is stored are of interest."

The case is made that the wristband could help ensure the item filled is the item that was requested.

How this would work was discussed by Boyle.

"The system's sensors triangulate on the wristband's signals to determine where a worker's hand is positioned, and software matches that position with the inventory item that's supposed to be processed. In addition to picking up signals, the system could send signals back, setting the band abuzz with a burst of "haptic feedback" to let workers know their hands are heading for the right bin."

More information: Ultrasonic bracelet and receiver for detecting position in 2d plane, US 20170278051 A1

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