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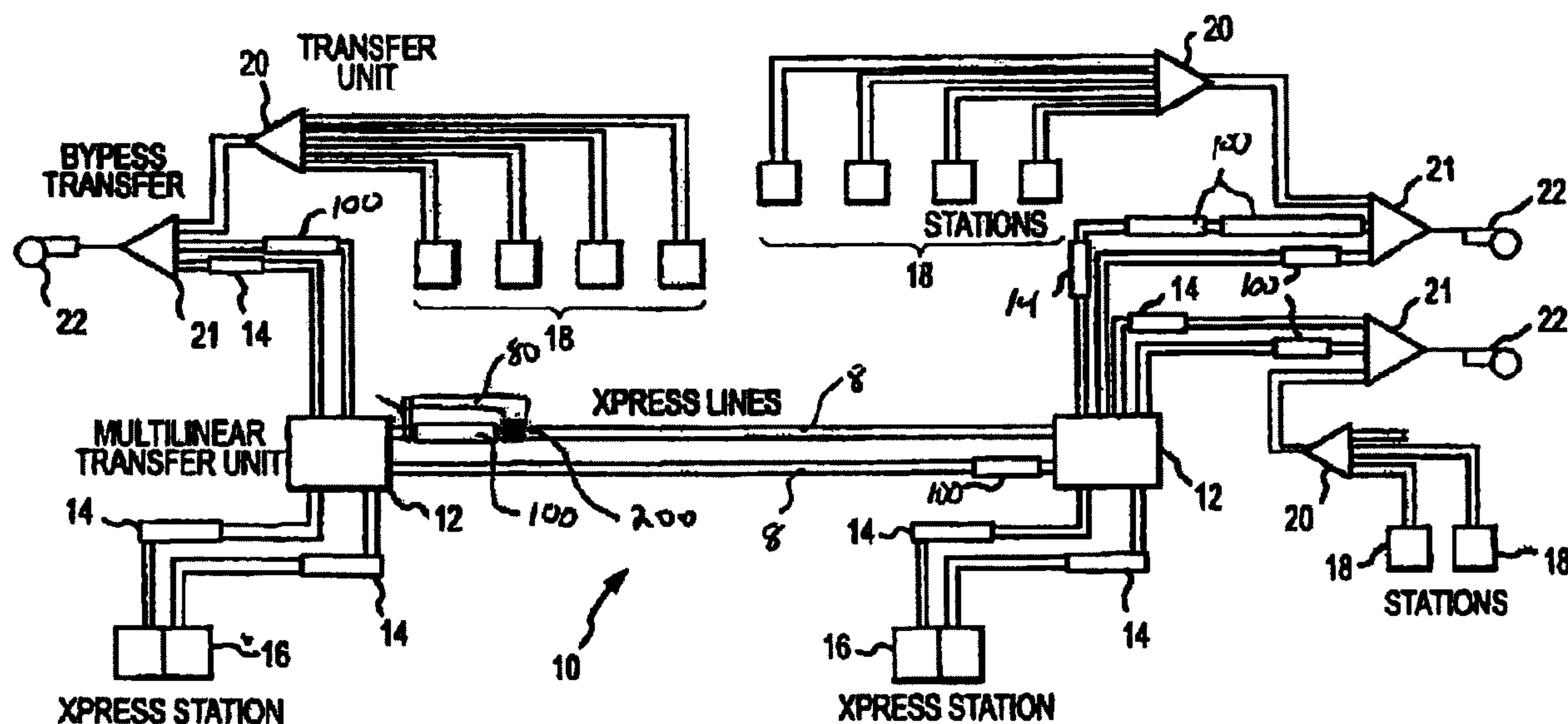
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(54) Titre : VALVE POUR SYSTEME DE TRANSPORT PAR TUBE PNEUMATIQUE

(54) Title: AIR VALVE FOR PNEUMATIC TUBE CARRIER SYSTEM



(57) Abrégé/Abstract:

A valve device and method are provided that are operative to selectively divert the flow of air within a pneumatic carrier within a pneumatic carrier system. Generally, the device includes a pneumatic tube that is sized to permit the passage of pneumatic carriers. The pneumatic tube includes at least aperture in a sidewall of the pneumatic tube, an outer sleeve, and an actuator. The actuator acts on the outer sleeve to block and open the aperture to fluid flow in order to divert air in the pneumatic system. In one embodiment, the valve is disposed in a pneumatic system in conjunction with a pneumatic carrier handling device.

ABSTRACT

A valve device and method are provided that are operative to selectively divert the flow of air within a pneumatic carrier within a pneumatic carrier system.

- 5 Generally, the device includes a pneumatic tube that is sized to permit the passage of pneumatic carriers. The pneumatic tube includes at least aperture in a sidewall of the pneumatic tube, an outer sleeve, and an actuator. The actuator acts on the outer sleeve to block and open the aperture to fluid flow in order to divert air in the pneumatic system. In one embodiment, the valve is disposed in a pneumatic system in
10 conjunction with a pneumatic carrier handling device.

AIR VALVE FOR PNEUMATIC TUBE CARRIER SYSTEM

CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority to U.S. Patent Application No. 12/575,020
5 entitled "AIR VALVE FOR PNEUMATIC TUBE CARRIER SYSTEM" having a
filing date of October 7, 2009, and claims the benefit of the filing date under 35
U.S.C. 119 to U.S. Provisional Application No. 61/104,159 entitled "AIR VALVE
FOR PNEUMATIC TUBE CARRIER SYSTEM" filed on October 9, 2008, the
contents of which are incorporated herein as if set forth in full.

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FIELD OF INVENTION

The presented inventions relate generally to the field of pneumatic tube carrier
systems. More particularly, the presented inventions relate to systems and methods
for diverting air to and/or from pneumatic tubes that transport pneumatic carriers.

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BACKGROUND

Pneumatic tube carrier systems are a well-known means for the automated
transport of materials between, for example, an origination location to any one of a
plurality of destination locations. A typical system includes a number of pneumatic
20 tubes interconnected in a network to transport carriers between a number of user
stations. Various blowers and transfer units provide the force and path control means,
respectively, for moving the carriers through and from tube-to-tube within the system.
Transfer units allow pneumatic carries to be moved from a first pneumatic tube to a
second pneumatic tube in order to route the pneumatic carrier between locations, or
25 stations, in the system/network.

The pneumatic tubes that connect the various system components may be
arranged in any manner that allows the carriers to be transferred between various
stations. These pneumatic tubes transmit air pressure or vacuum from the various
blowers to effectuate the movement of carriers through the system. If a carrier is
30 brought to a stop in the system to await transport through a subsequent portion of the
system, the stationary carrier may prevent operation of downstream system

34. The apparatus of Claim 29, wherein the valve is within the bypass duct.
35. The apparatus of Claim 34, wherein the valve is a butterfly valve.

