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(54) **Baggage checking device and method.**

(57) A device and method for checking baggage are provided, comprising an infeeding conveyor having a direction of conveyance and arranged to convey a piece of baggage from a baggage presentation area to a baggage collection element, a baggage access gate movable between an open position and a closed position and arranged to control passage of a piece of baggage from the infeeding conveyor to a baggage collection element, an input device having an input mechanism and configured to send an instruction signal, a controlling device connected to the input device arranged to send signals to the infeeding conveyor and a baggage access gate, wherein, in response to the instruction signal from the input device, the controlling device sends an activation signal to the infeeding conveyor and the baggage access gate, which activation signal actuates the infeeding conveyor and baggage access gate, thereby causing the piece of baggage to be conveyed from a baggage presentation area through a baggage access gate and onto a baggage collection element.

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TITLE: BAGGAGE CHECKING DEVICE AND METHOD

The invention relates to a baggage checking device and method for checking a piece of baggage.

BACKGROUND

Airport passenger check-in procedures generally involve the checking and handling of baggage prior to flight boarding. This transaction usually involves interaction between a passenger and an airline representative. It is also possible that the transaction be fully automated, thereby obviating the need for an airline representative. During baggage checking, the baggage may be measured and weighed by sensors configured thereto. Further, the baggage is also registered to the passenger and a label or tag affixed to it having the information to link the specific piece of baggage to a specific passenger, and to enable its routing through a baggage collection element.

Once a piece of baggage is placed on the baggage collection element, it is routed and loaded into the correct cart for subsequent loading into the corresponding plane. The routing is highly automated, scanners read the baggage-identifying tags to effect the routing and therefore supervision is minimal or non-existent.

Access to the baggage collection and routing area is restricted to personnel associated with the baggage handling and checking procedure. However, incidents may occur in which an individual is able to access and remain on the baggage collection area without being noticed by airline staff or airport security officers. It is possible that a child or infant or any other individual may step on an infeeding belt and be inadvertently taken to the main baggage conveyor area.

This can lead to dangerous situations, such as an individual being conveyed by a baggage conveying system into automated baggage handling, checking and sorting facilities, where the baggage may be subjected to X-ray scanning, automated handling by mechanical devices, et cetera, where overexposure to X-rays or accidents may occur once the individual reaches, for example, a hydraulics area or a chute area of the conveyor belt.

Furthermore, such security weaknesses could be exploited by individuals with criminal intent to gain access to the baggage collection element area or to the checked bags being transported thereon.

Therefore, a need exists for a baggage checking system that addresses said security deficiencies.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a device and method for safely checking baggage at an airport baggage checking station.

According to the present invention, a checking device and method are provided for checking baggage presented by a passenger or individual to an airline representative at a baggage checking station. Once an airline representative or other authorized individual approves a piece of baggage for checking, the piece of baggage is placed on a baggage presentation area. The baggage presentation area may be an area on an infeeding conveyor. The airline representative or authorized individual submits a command input at an input device having an input mechanism, which input device is arranged to, in response to the command input, send an instruction signal to a controlling device. Upon receipt of the instruction signal, the controlling device sends a signal for actuating the infeeding conveyor and baggage access gate. The piece of baggage is then conveyed on the infeeding conveyor, and the baggage access gate is opened, allowing passage of the piece of baggage and permitting its transfer onto the baggage collection element. The baggage collection element may be a baggage collection conveyor belt, a series of conveyor belts, or any other element suitable for collection and transfer of baggage from infeeding conveyor to a destination in the airport.

Because of controlled timing and duration of the opening and closing of the baggage access gate and of the infeeding conveyor, as provided by the baggage checking device, it becomes very difficult for an individual to gain unauthorized access, whether intentional or not, to a restricted area behind the baggage access gate.

Because of controlled timing and duration of the opening and closing of the baggage access gate and of the infeeding conveyor as provided by the baggage checking method, as with the baggage checking device, the same or similar effects may be achieved and it becomes very difficult for an individual to gain unauthorized access, whether intentional or not, to a restricted area behind the baggage access gate.

In accordance with an embodiment of the invention, a device for checking baggage is provided, comprising an infeeding conveyor having a direction of conveyance and arranged to convey a piece of baggage from a baggage presentation area to a baggage collection element, a baggage access gate movable between an open position and a closed position

and arranged to control passage of a piece of baggage from the infeeding conveyor to a baggage collection element, an input device having an input mechanism and configured to send an instruction signal, a controlling device connected to the input device and arranged to send signals to the infeeding conveyor and a baggage access gate, wherein, in response to the instruction signal from the input device, the controlling device sends an activation signal to the infeeding conveyor and the baggage access gate, which activation signal actuates the infeeding conveyor and baggage access gate, thereby causing the piece of baggage to be conveyed from a baggage presentation area through a baggage access gate and onto a baggage collection element.

The input device, which is activatable by an operator and receives commands from an operator such as an airline representative and may be located at passenger check-in station or baggage checking station and may be stationary, or portable and remotely operated. The input mechanism of the input device may be a push button, a foot pedal, a touch-activated element, a key on a keyboard, a vision-based input interface, a voice-, speech- or sound-activated interface arranged to respond to spoken commands, or any other element arranged to effect sending of an instruction to a controlling device when activated by the operator. The input device may be configured so that only an authorized individual is able to operate it. Generally, a passenger check-in station is enabled once an authorized individual logs into the particular check-in station with his or her credentials. The input device may be automatically enabled upon login of the authorized individual. The controlling device may be any control device, such as an electronic control device, an electronic data processing device provided with suitable software instructions in order to perform the stated functions, etc. The term baggage checking may be understood so as to comprise baggage check-in, such as for example baggage check-in at an airport. The baggage access gate may comprise a door or panel or other element suitable for forming a barrier, of any suitable material, and fitted with a mechanism such as sliding or pivoting, which is arranged to move from an open position permitting passage therethrough to a closed position restricting passage therethrough, and vice versa. The baggage access gate, may, for example, be a two-part gate wherein the parts slide in opposite directions to create an opening, or it may be a pivoting panel or door, which pivots from a pivoting point to open or close.

The infeeding conveyor may comprise a conveyor belt or any other suitable conveyor type, such as a gravity roller conveyor, gravity skatewheel conveyor, lineshaft conveyor, chain conveyor, overhead conveyor, bucket conveyor, vertical conveyor, pneumatic conveyor, belt-driven or chain-driven live-roller conveyor, flexible conveyor, plastic belt conveyor, vibrating conveyor, spiral conveyor, Auger conveyor, or wire mesh conveyor, et cetera.

In an embodiment of the invention, the device further comprises at least one sensor. In an embodiment, a sensor is a arranged to determine the weight of the piece of baggage or to determine whether the piece of baggage exceeds a weight limit. Alternatively or additionally, a sensor may be configured to detect the presence of a living being such as a human being, for example, through infrared sensing or carbon dioxide sensing. Alternatively or additionally, a sensor may be configured to perform a 3-dimensional or 2-dimensional scan of the piece of baggage. This may be done in order to determine or approximate the size of the piece of baggage, to determine transportability, or to determine whether the baggage poses potential safety hazards. For example, the 3-dimensional scan may determine that the baggage has loose straps that may interfere with operation of the baggage collection element, and alert the controller or personnel thereto, while blocking or disabling further transport of the piece of baggage. Alternatively the sensor may be configured to detect the location of a piece of baggage on the infeeding conveyor. All sensors are arranged to send a sensor signal to the controlling device. In an embodiment, the controlling device is arranged to override an actuation instruction based on a sensor signal. For example, the controlling device may override the actuation instruction if the sensor signal indicates that the piece of baggage exceeds a weight limit.

The sensor may be an approach sensor arranged to detect approach of the piece of baggage to the baggage access gate. The approach sensor signal is communicated to the controlling device. In an embodiment, the controlling device is configured to send an actuation signal to the baggage access gate based on the approach sensor signal, causing the baggage access gate to move from a closed position to an open position if the approach sensor signal indicates that the piece of baggage is approaching. The controlling device may be configured to wait for an approach sensor signal indicating that the piece of baggage is at a predetermined distance from the baggage access gate in order to send a baggage access gate actuation signal for opening the baggage access gate. The controlling device may be arranged to maintain the actuation signal causing the baggage access gate to remain in the open position for as long as the piece of baggage is detected to be on the infeeding conveyor. The approach sensor may comprise a detector array arranged substantially parallel to the direction of conveyance. The approach sensor may comprise an optical detector array, a motion detector array, an ultrasonic transceiver array, a proximity sensor array, a reflector array, a laser scanner, or other type of sensor or sensor array, or combination thereof, which extends along a direction substantially parallel to the direction of conveyance and which is suitable for tracking movement of baggage along a direction of conveyance and approach of baggage towards the baggage access gate. An approach sensor or sensor array, may detect movement of a piece of baggage along a direction of

conveyance and towards the baggage access gate by, for example, scanning an area by emitting signals, such as but not limited to, laser beams, along a direction of conveyance and evaluating the return signals or echoes.

In another embodiment, the device further comprises a passage sensor, which passage sensor is arranged to sense passage of the piece of baggage through the open baggage access gate. The passage sensor signal is sent to the controlling device, and if the signal indicates that the piece of baggage has passed through the baggage access gate, the controlling device is arranged to send an actuation signal to the baggage access gate causing it to move from an open position to a closed position. Further, the controlling device may be arranged to deactivate the infeeding conveyor and baggage access gate upon detection of transfer of the piece of baggage from the infeeding conveyor to the baggage collection element. The passage sensor may comprise a detector array arranged substantially perpendicular to a direction of conveyance. The passage sensor may comprise an optical detector array, a motion detector array, an ultrasonic transceiver array, a proximity sensor array, a laser scanner, a reflector array, or other type of sensor or sensor array, or combination thereof, which extends along a direction substantially perpendicular to the direction of conveyance and which is suitable for detecting passage of a piece of baggage through the baggage access gate area. A passage sensor or sensor array, may detect passage of a piece of baggage through the baggage access gate area by, for example, scanning an area by emitting signals, such as but not limited to, laser beams, and evaluating the return signals or echoes.

In one embodiment, the device comprises both an approach and a passage sensor. The controlling device is arranged to receive both the approach and the passage sensor signals and to control actuation of the infeeding conveyor and the baggage access gate based on the content of both sensor signals.

In an alternative embodiment, the device may further comprise a sensor for detecting an illegal substance or unauthorized content, wherein the controlling device is arranged to override the instruction signal based on a received sensor signal indicating presence of an illegal substance or unauthorized content in the piece of baggage.

In another embodiment, the controlling device is arranged to send, after a specific time period has lapsed after receiving the instruction signal, deactivation signals to the baggage access gate and to the infeeding conveyor, causing the infeeding conveyor to stop running and the baggage access gate to move from an open position to a closed position.

The baggage checking device may be arranged to hold the piece of baggage on the infeeding conveyor until it receives a signal of an available slot in the baggage collection element. For example, the controlling device may be arranged to receive a direct input or signal from the baggage collection element indicating availability of a window or windows for transfer of the piece or pieces of baggage. The baggage collection element signal or input may give indication as to the timing and number of the window or windows. With this information the controlling device coordinates the actuation signal to actuate the infeeding conveyor and baggage access gate accordingly.

In an embodiment, the controlling device controls activation and deactivation of the infeeding conveyor and baggage access gate based on a combination of an instruction received from the input device, input received from a plurality of sensors and an input received from the baggage collection element.

In an embodiment, the controlling device controls activation and deactivation of the infeeding conveyor and baggage access gate based on a combination of an instruction received from the input device, input received from a plurality of sensors including a weight sensor, a three-dimensional or two-dimensional scanning sensor, a passage sensor and an approach sensor, and an input received from the baggage collection element.

In a further embodiment, the controlling device is configured to send a deactivation signal to the infeeding conveyor and to send a deactivation signal to the baggage access gate causing the gate to move from an open position to a closed position, after a specific period of time has lapsed.

In an embodiment of the invention, a method for checking baggage is provided comprising the steps of receiving a piece of baggage on a baggage presentation area of an infeeding conveyor, the infeeding conveyor having a direction of conveyance, receiving a command on an input device, which command causes the input device to send an instruction signal to a controlling device, wherein in response to receiving an instruction signal from the input device, the controlling device sends activation signals to the infeeding conveyor and to a baggage access gate, causing the infeeding conveyor to convey the piece of baggage to a baggage collection element, and causing the baggage access gate to move from a closed position to an open position to allow passage of the piece of baggage from the infeeding conveyor to the baggage collection element. With the method for checking baggage according to an embodiment of the invention, the same or similar effects may be achieved as with the baggage checking device according to an embodiment of the invention. Also, the

same or similar preferred embodiment may be provided, providing the same or similar effects.

In a further embodiment, the method further comprises sensing a weight-related parameter of the piece of baggage and sending a sensor output signal to the controlling device, wherein the controlling device alerts an operator if the piece of baggage exceeds a weight threshold, and if the weight threshold is exceeded, the controller device further ignores an instruction signal, if received.

In an embodiment the method further comprises a step wherein the controlling device receives input from at least one sensor, and denies or approves access of the piece of baggage to the baggage collection element based on the input received from the at least one sensor, and, ignores an instruction signal to activate the infeeding conveyor and baggage access gate if access is denied.

In another embodiment the method further comprises sensing approach of the piece of baggage to the baggage access gate, and sending an approach sensor signal to the controlling device, wherein, based on the approach sensor signal the controlling device sends an actuation signal to the baggage access gate causing the baggage access gate to move from a closed position to an open position.

In a further embodiment, the method further comprises sensing passage of the piece of baggage through the baggage access gate, wherein based on a passage sensor signal, the controlling device sends an actuation signal to the baggage access gate causing the baggage access gate to move from an open position to a closed position.

In another embodiment, the method further comprises sending a deactivation from the controlling device to the infeeding conveyor and baggage access gate, causing the infeeding conveyor to stop running and causing the baggage access gate to move from an open position to a closed position. after a specific period of time has lapsed from receipt of the instruction signal.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows a view of a baggage checking area in accordance with an embodiment of the invention.

Fig. 2 shows a view of a baggage checking area in accordance with an embodiment of the invention.

Fig. 3 shows a view of a baggage checking area in accordance with an embodiment of the invention.

Throughout the figures, the same reference numerals refer to the same or similar parts.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Fig. 1 shows a view of an embodiment of the invention as may be implemented on a baggage checking area at an airport. At a baggage checking station **101** having, for example, displaying device **125** and a desk or counter **129**, a piece of baggage **103** is placed on a baggage presentation area of an infeeding conveyor **105** having a conveyance direction as depicted by arrow **111**. In some arrangements, a side panel or dividing panel **123** may demarcate an infeeding conveyor area. The baggage presentation area may be any area of the infeeding conveyor. The piece of baggage is to be conveyed through baggage access gate **107** onto baggage collection element **109** in baggage collection area **113**. Baggage access gate **107** separates the baggage collection area **113** from the general baggage checking area **121**. The baggage collection element **109** may be a conveyor belt or any other element arranged to receive baggage from infeeding conveyors and routing them to a subsequent or final destination in the airport. A baggage checking device is provided comprising an input device **227** having an input mechanism. The connections between the elements are schematically shown. Controlling device **115** is connected to input device **127**, baggage access gate **107** and to infeeding conveyor **105**. Actuator **119** functions to actuate baggage access gate **119** and actuator **117** functions to actuate infeeding conveyor **105.**. Controlling device **115** is arranged to receive instruction signals from input device **127**. Infeeding conveyor **105** is arranged to convey a piece or multiple pieces of baggage from a baggage presentation area to baggage collection element **109**. The baggage presentation area may be any location along the infeeding conveyor. Baggage access gate **107** is arranged to allow (in open position) or to block (in closed position) transfer of the piece or pieces of baggage from the infeeding conveyor **105** to the baggage collection element by moving from a closed position to an open position or by moving from an open position to a closed position.

Input device **127** may be operated by authorized personnel during a baggage checking procedure. When input device **127** receives an input indicating a request or command for the baggage to be conveyed, an instruction signal is sent by the input device to controlling device **115**. Controlling device **115** controls actuation of infeeding conveyor **105** and

baggage access gate **107** through actuators **117** and **119**, respectively. The infeeding conveyor **105** and baggage access gate **107** may, for example, be simultaneously activated, so that once infeeding conveyor **105** starts running, baggage access gate **107** moves from a closed position to an open position in order to permit transfer of the piece of baggage onto the baggage collection element. Alternatively, the infeeding conveyor **105** and baggage access gate **107** may be activated separately, so that, for example, infeeding conveyor **105** starts running before baggage access gate **107** moves from an open position to a closed position. Alternatively, baggage access gate **107** may be activated to open after infeeding conveyor **105** has conveyed the piece of baggage to a particular location. Baggage access gate **107** separates a restricted baggage collection area **113** and the general baggage checking area **121**.

The controlling device **115** may be an electronics-based device programmed with instructions to operate baggage access gate **107** and infeeding conveyor **105** based on the instruction signals received from input device **127**.

The input device **127** may be stationary and located at an airline check-in station or baggage checking station, or may be portable and arranged for remote use. Input mechanism of input device **127** may be a push button, a foot pedal, a touch activated element, a key on a keyboard, a vision-based input interface, a voice-, speech- or sound-activated interface arranged to respond to spoken commands, or any other element arranged to cause sending of an instruction to the controlling device **115**. The input mechanism may be such that only an authorized individual is able to operate it. Generally, a check-in station or baggage checking station is enabled once an authorized individual logs into the particular check-in or baggage checking station with his or her credentials. The input mechanism may be configured to be enabled at the time of login of the authorized individual.

The infeeding conveyor **105** may be an infeeding conveyor belt or any element arranged for conveying a piece of baggage from a baggage presentation area to a baggage collection element.

The baggage access gate **107** may be a sliding door or panel of any suitable material, it may be a two-part gate wherein the parts slide in opposite directions to create an opening, it may be a pivoting panel or door, or any other component suitable for forming a gate which is arranged to move from an open position to a closed position and vice versa.

Fig. 2 shows an embodiment of the baggage checking device in accordance with the invention, in which the baggage checking device further comprises at least one sensor. At a baggage checking station **201** having, for example, displaying device **225** and a desk or counter **229**, a piece of baggage **203** is placed on a baggage presentation area of an

infeeding conveyor **205** having a conveyance direction as depicted by arrow **211**. In some arrangements, a side panel or dividing panel **223** may demarcate an infeeding conveyor area. The baggage presentation area may be any area of the infeeding conveyor. The piece of baggage is to be conveyed through baggage access gate **207** onto baggage collection element **209** in baggage collection area **213**. Baggage access gate **207** separates the baggage collection area **213** from the general baggage checking area **221**. The baggage collection element **209** may be a conveyor belt or any other element arranged to receive baggage from infeeding conveyors and routing them to an intermediate or final destination in the airport. A baggage checking device is provided comprising an input device **227** having an input mechanism. Controlling device **215** is connected to input device **227** and is arranged to receive instruction signals from the input device, an infeeding conveyor **205** is arranged to convey a piece or multiple pieces of baggage from a baggage presentation area to baggage collection element **209**. The baggage presentation area may be any location along the infeeding conveyor. Baggage access gate **207** is arranged to allow or to block transfer of the piece or pieces of baggage from the infeeding conveyor **205** to the baggage collection element by moving from a closed position to an open position or by moving from an open position to a closed position.

Input device **227** may be operated by authorized personnel during a baggage checking procedure. When input device **227** receives an input indicating a request or command for the baggage to be conveyed, an instruction signal is sent by the input device to controlling device **215**. Controlling device **215** controls actuation of infeeding conveyor **205** and baggage access gate **207** through actuators **217** and **219**, respectively. The infeeding conveyor **205** and baggage access gate **207** may, for example, be simultaneously activated, so that once infeeding conveyor **205** starts running, baggage access gate **207** moves from a closed position to an open position in order to permit transfer of the piece of baggage onto the baggage collection element. Alternatively, the infeeding conveyor **205** and baggage access gate **207** may be activated separately, so that, for example, infeeding conveyor **205** starts running before baggage access gate **207** moves from an open position to a closed position. Alternatively, baggage access gate **207** may be activated to open after infeeding conveyor **205** has conveyed the piece of baggage to a particular location.

The controlling device **215** may be an electronics-based device programmed with instructions to operate baggage access gate **207** and infeeding conveyor **205** based on the instruction signals received from input device **201**.

The input device **227** may be stationary and located at an airline check-in station or baggage checking station, or may be portable and arranged for remote use. Input mechanism of input device **227** may be a push button, a foot pedal, a touch activated element, a key on a

keyboard, a vision-based input interface, a voice-, speech- or sound-activated interface arranged to respond to spoken commands, or any other element arranged to cause sending of an instruction to the controlling device **215**. The input mechanism may be such that only an authorized individual is able to operate it. Generally, a check-in station or baggage checking station is enabled once an authorized individual logs into the particular check-in or baggage checking station with his or her credentials. The input mechanism may be configured to be enabled at the time of login of the authorized individual.

The infeeding conveyor **205** may be an infeeding conveyor belt or any element arranged for conveying a piece of baggage from a baggage presentation area to a baggage collection element.

The baggage access gate **207** may be a sliding door or panel of any suitable material, it may be a two-part gate wherein the parts slide in opposite directions to create an opening, it may be a pivoting panel or door, or any other component suitable for forming a gate which is arranged to move from an open position to a closed position and vice versa.

A schematical representation of the at least one sensor is shown in element **231** of **Fig. 2**. Sensor **231** is connected to controlling device **215**, and may, for example, sense the weight of the piece of baggage once it has been placed on the infeeding conveyor **205**. The sensor **231** may be arranged to determine, for example, whether the piece of baggage exceeds a weight limit or threshold. The sensor signal is communicated to controlling device **215**, which may override an instruction signal from input device **227** and block or stop activation of the infeeding conveyor **205** based on the sensor signal. Alternatively, sensor **231** may be configured to perform a three-dimensional or two-dimensional scan of the piece of baggage in order to determine size and/or whether the baggage poses potential safety hazards. For example, the scan may determine that the baggage has loose straps that may interfere with operation of the baggage collection element, and alert the controller or personnel thereto, while blocking or disabling further transport or conveyance of the piece of baggage. The sensor signal is communicated to controlling device **215**, which may override an instruction signal from input device **227** and block activation of the infeeding conveyor **205**. In an embodiment, the controlling device may override the actuation instruction if the three-dimensional or two-dimensional sensor signal indicates that the piece of baggage exceeds a dimensional threshold such as a height or length.

Alternatively, sensor **231** may also be any type of sensor configured to detect any type of matter found exclusively in living beings or human beings, for example, through infrared sensing or carbon dioxide sensing. Sensor **231** may be configured to detect parameters such as weight, motion, size, length, depth, width, temperature, height, or any combination thereof, based on optical signals, pressure, acoustic signals, or any combination thereof.

In accordance with a further embodiment of the invention, a device for checking baggage is provided, comprising an infeeding conveyor having a direction of conveyance and arranged to convey a piece of baggage from a baggage presentation area to a baggage collection element, a baggage access gate movable between an open position and a closed position and arranged to control passage of a piece of baggage from the infeeding conveyor to a baggage collection element, an input device having an input mechanism and configured to send an instruction signal, a controlling device connected to the input device arranged to send signals to the infeeding conveyor and a baggage access gate, wherein, in response to the instruction signal from the input device, the controlling device sends an activation signal to the infeeding conveyor and the baggage access gate, which activation signal actuates the infeeding conveyor and baggage access gate, thereby causing the piece of baggage to be conveyed from a baggage presentation area through a baggage access gate and onto a baggage collection element.

The input device receives commands from an operator such as an airline representative and may be located at the check-in station or baggage checking station and may be stationary or portable and remotely operated. The input mechanism of the input device may be a push button, a foot pedal, a touch-activated element, a key on a keyboard, a vision-based input interface, a voice-, speech- or sound-activated interface arranged to respond to spoken commands, or any other element arranged to effect sending of an instruction to a controlling device. The input device may be configured so that only an authorized individual is able to operate it. Generally, a check-in station is enabled once an authorized individual logs into the particular check-in station with his or her credentials. The input device may be automatically enabled upon login of the authorized individual. The baggage access gate is movable between open and closed positions.

In an embodiment of the invention, the device further comprises at least one sensor. In an embodiment, the sensor is a arranged to determine the weight of the piece of baggage or to determine whether the piece of baggage exceeds a weight limit or threshold. Alternatively, the sensor may be configured to detect the presence of a living being such as a human being, for example, through infrared sensing or carbon dioxide sensing. Alternatively, the sensor may be configured to perform a 3-dimensional or 2-dimensional scan of the piece of baggage. This may be done in order to determine or approximate the size of the piece of baggage, to determine transportability, or to determine whether the baggage poses potential safety hazards. For example, the 3-dimensional scan may determine that the baggage has loose straps that may interfere with operation of the baggage collection element, and alert the controller or personnel thereto, while blocking or disabling further transport of the piece of baggage. Alternatively the sensor may be configured to detect the location of a piece of

baggage on the infeeding conveyor. The sensor may be arranged to send a signal to the controlling device. In an embodiment, the controlling device is arranged to override an actuation instruction based on a sensor signal. For example, the controlling device may override the actuation instruction if the sensor signal indicates that the piece of baggage exceeds a weight limit.

Fig. 3 shows a further embodiment of the device in accordance with the invention, in which the baggage checking device further comprises at least two sensors or a plurality of sensors. The baggage checking device comprises input device **327** having an input mechanism, a controlling device **315** arranged to receive instructions from the input device and further configured to receive a sensor signal from sensors **331** and **333**, an infeeding conveyor **305** arranged to convey a piece or multiple pieces of baggage **303** from a baggage presentation area to a baggage collection element, and a baggage access gate **307** movable between open and closed positions. The baggage presentation area may be any location along the infeeding conveyor. Baggage access gate **307** is arranged to allow or to block transfer of the piece or pieces of baggage from the infeeding conveyor **305** to the baggage collection element by moving from a closed position to an open position.
Input device **327** may be operated by authorized personnel during a baggage checking procedure. When input device **327** receives an input indicating a request for the baggage to be conveyed, an actuation instruction is sent by the input device **301** to a controlling device **315**. Controlling device **315** controls actuation of infeeding conveyor **305** and baggage access gate **307**. The infeeding conveyor **305** and baggage access gate **307** may, for example, be simultaneously activated, so that once the infeeding conveyor starts running, the baggage access gate **307** moves from a closed position to an open position in order to permit transfer of the piece of baggage onto the baggage collection element. Alternatively, the infeeding conveyor **305** and baggage access gate **307** may activated or actuated separately.
Sensor **331** may, for example, track movement of the piece of baggage along the infeeding conveyor **305** and thereby detect approach of the piece of baggage towards the baggage access gate **307**. Sensor **333** may, for example, detect passage of the piece of baggage through the baggage access gate **307**. The sensor signals are communicated to controlling device **315**, which may override an instruction signal from input device **327** and block or stop activation of the infeeding conveyor **305** based on the sensor signals. The sensor signals are communicated to controlling device **315**, which may override an instruction signal from input device **327** and block activation of the infeeding conveyor **305**.

In accordance with a further embodiment of the invention, a device for checking baggage is provided, comprising an infeeding conveyor having a direction of conveyance and arranged to convey a piece of baggage from a baggage presentation area to a baggage collection element, a baggage access gate movable between an open position and a closed position and arranged to control passage of a piece of baggage from the infeeding conveyor to a baggage collection element, an input device having an input mechanism and configured to send an instruction signal, a controlling device connected to the input device arranged to send signals to the infeeding conveyor and a baggage access gate, wherein, in response to the instruction signal from the input device, the controlling device sends an activation signal to the infeeding conveyor and the baggage access gate, which activation signal actuates the infeeding conveyor and baggage access gate, thereby causing the piece of baggage to be conveyed from a baggage presentation area through a baggage access gate and onto a baggage collection element.

The input device receives commands from an operator such as an airline representative and may be located at the check-in station or baggage checking station and may be stationary or portable and remotely operated. The input mechanism of the input device may be a push button, a foot pedal, a touch-activated element, a key on a keyboard, a vision-based input interface, a voice-, speech- or sound-activated interface arranged to respond to spoken commands, or any other element arranged to effect sending of an instruction to a controlling device. The input device may be configured so that only an authorized individual is able to operate it. Generally, a check-in station is enabled once an authorized individual logs into the particular check-in station with his or her credentials. The input device may be automatically enabled upon login of the authorized individual. The baggage access gate is movable between open and closed positions.

In an embodiment of the invention, the device further comprises at least one sensor. In an embodiment, the sensor is a arranged to determine the weight of the piece of baggage or to determine whether the piece of baggage exceeds a weight limit or threshold. Alternatively, the sensor may be configured to detect the presence of a living being such as a human being, for example, through infrared sensing or carbon dioxide sensing. Alternatively, the sensor may be configured to perform a 3-dimensional or 2-dimensional scan of the piece of baggage. This may be done in order to determine or approximate the size of the piece of baggage, to determine transportability, or to determine whether the baggage poses potential safety hazards. For example, the 3-dimensional scan may determine that the baggage has loose straps that may interfere with operation of the baggage collection element, and alert the controller or personnel thereto, while blocking or disabling further transport of the piece of baggage. Alternatively the sensor may be configured to detect the location of a piece of

baggage on the infeeding conveyor. The sensor may be arranged to send a signal to the controlling device. In an embodiment, the controlling device is arranged to override an actuation instruction based on a sensor signal. For example, the controlling device may override the actuation instruction if the sensor signal indicates that the piece of baggage exceeds a weight limit.

The sensor may be an approach sensor arranged to detect approach of the piece of baggage to the baggage access gate. The approach sensor signal is communicated to the controlling device. The controlling device may be configured to send an actuation signal to the baggage access gate based on the approach sensor signal causing the baggage access gate to move from a closed position to an open position if the approach sensor signal indicates that the piece of baggage is approaching the gate. The controlling device may be configured to wait for an approach sensor signal indicating that the piece of baggage is at a certain, predetermined distance from the baggage access gate in order to send a baggage access gate actuation signal for opening the baggage access gate. The controlling device may be arranged to maintain the actuation signal causing the baggage access gate to remain in the open position for as long as the piece of baggage is detected to be on the infeeding conveyor. Controlling opening and closing of the baggage access gate based on an approach signal reduces the period of time a baggage access gate is unnecessarily left open, thereby decreasing chances of trespass by an unauthorized individual to the restricted area past the baggage access gate. In an embodiment, the approach sensor may comprise a detector array arranged substantially parallel to the direction of conveyance. Having an array of detectors enables tracking of the piece of baggage along the conveyor, thereby providing information which may be used to determine when a baggage access gate should open, remain open, or close, or when an infeeding conveyor should stop or start running. It may also be used to control the infeeding conveyor speed.

In another embodiment, the device further comprises a passage sensor, which passage sensor is arranged to sense passage of the piece of baggage through the open baggage access gate. The passage sensor signal is sent to the controlling device, and if the signal indicates that the piece of baggage has passed through the baggage access gate, the controlling device is arranged to send an actuation signal to the baggage access gate causing it to move from an open position to a closed position. Further, the controlling device may be arranged to deactivate the infeeding conveyor and baggage access gate upon detection by a sensor of transfer of the piece of baggage from the infeeding conveyor to the baggage collection element. Controlling opening and closing of the baggage access gate based on a passage signal reduces the period of time a baggage access gate is

unnecessarily open or left open, thereby decreasing chances of trespass by an unauthorized individual to the restricted area past the baggage access gate. In an embodiment, the passage sensor may comprise a detector array arranged substantially perpendicular to a direction of conveyance. Having an array of detectors provides for accurate detection of passage of the piece of baggage along the conveyor, thereby providing information which may be used to determine when a baggage access gate should open, remain open, or close, or when an infeeding conveyor should stop or start running. Further, having a detector array which is arranged is substantially perpendicular to the direction of conveyance allow for detection of passage of the piece of baggage even when the piece of baggage is irregularly-shaped. It may also be used to control the infeeding conveyor speed.

In one embodiment, the device comprises both an approach and a passage sensor. The controlling device is arranged to receive both the approach and the passage sensor signals and to control actuation of the infeeding conveyor and the baggage access gate based on the content of both signals. Having both an approach and passage sensor allows for coordination between conveyance of the piece of baggage and opening and closing of the baggage access gate. The sensed information may be used to control the starting and halting of the infeeding conveyor as well as its speed, and to control the timing of closing and opening the baggage access gate, and whether the baggage access gate is to be left open a certain period of time.

In an alternative embodiment, the device may further comprise a sensor for detecting an illegal substance or unauthorized content, such as illegal drugs or explosives, wherein the controlling device is arranged to override the instruction signal based on a sensor signal indicating presence of an illegal substance or unauthorized content. Having such a sensor integrated in the baggage checking system offers a more streamlined checking procedure, where such scanning may be obviated during further routing and screening of the piece of baggage. Alternatively, it may provide a further layer of security screening.

In another embodiment, the controlling device is arranged to send, after a specific time period has lapsed after receiving the instruction signal, deactivation signals to the baggage access gate and to the infeeding conveyor, causing the infeeding conveyor to stop running and the baggage access gate to move from an open position to a closed position. This arrangement may be in place as a back-up mechanism in case of failure of the signals between the input device, the controlling device and the baggage access gate and infeeding conveyor, providing for opening and closing of the baggage access gate and starting and

halting of the infeeding conveyor after a predetermined time deemed reasonable to allow passage of the piece of baggage through the baggage access gate and onto the baggage collection element. The predetermined period of time may be determined in situ and for each piece of baggage, based on, for example, the dimensions and weight of the piece of baggage.

In some instances, a baggage collection element is operated according to a windowing scheme, that is, there must be a window or slot available on the baggage collection element before transfer of a piece of baggage from an infeeding conveyor is allowed. In this case, the baggage checking device may be arranged to hold the piece of baggage on the infeeding conveyor until it receives a signal of an available slot in the baggage collection element. For example, the controlling device may be arranged to receive a direct input or signal from the baggage collection element indicating availability of a window or windows for transfer of the piece or pieces of baggage. The baggage collection element signal or input may give indication as to the timing and number of the window or windows. With this information the controlling device coordinates the actuation signal to actuate the infeeding conveyor and baggage access gate accordingly. The controlling device may, for example, cause the piece of baggage to be conveyed to the end of the infeeding conveyor and cause the baggage access gate to move to an open position, then cause the conveyor to stop running by sending a signal thereto, while the baggage access gate remains open, and once a window arrives cause the infeeding conveyor to restart to transfer of the piece of baggage. Such an arrangement allows for easy coordination between the baggage collection element and each baggage checking station and infeeding conveyor and baggage access gate.

In an embodiment, the controlling device controls activation and deactivation of the infeeding conveyor and baggage access gate based on a combination of an instruction received from the input mechanism, input received from a plurality of sensors and an input received from the baggage collection element. Such an arrangement allows for easy coordination between the baggage collection element and the baggage checking station, and for a faster baggage checking transaction.

In an embodiment of the invention, a method for checking baggage is provided comprising the steps of receiving a piece of baggage on a baggage presentation area of an infeeding conveyor, the infeeding conveyor having a direction of conveyance,receiving a command on an input device, which command causes the input device to send an instruction signal to a controlling device, wherein in response to receiving an instruction signal from the input device, the controlling device sends activation signals to the infeeding conveyor and to a

baggage access gate, causing the infeeding conveyor to convey the piece of baggage to a baggage collection element, and causing the baggage access gate to move from a closed position to an open position to allow passage of the piece of baggage from the infeeding conveyor to the baggage collection element.

In a further embodiment, the method further comprises sensing a weight-related parameter of the piece of baggage and sending a sensor output signal to the controlling device, wherein the controlling device alerts an operator if the piece of baggage exceeds a weight threshold, and if the weight threshold is exceeded, the controller device further ignores an instruction signal, if received.

In an embodiment the method further comprises a step wherein the controlling device receives input from at least one sensor, and denies or approves access of the piece of baggage to the baggage collection element based on the input received from the at least one sensor, and, ignores an instruction signal to activate the infeeding conveyor and baggage access gate if access is denied.

In another embodiment the method further comprises sensing approach of the piece of baggage to the baggage access gate, and sending an approach sensor signal to the controlling device, wherein, based on the approach sensor signal the controlling device sends an actuation signal to the baggage access gate causing the baggage access gate to move from a closed position to an open position.

In a further embodiment, the method further comprises sensing passage of the piece of baggage through the baggage access gate, wherein based on a passage sensor signal, the controlling device sends an actuation signal to the baggage access gate causing the baggage access gate to move from an open position to a closed position.

In another embodiment, the method further comprises sending a deactivation from the controlling device to the infeeding conveyor and baggage access gate, causing the infeeding conveyor to stop running and causing the baggage access gate to move from an open position to a closed position. after a specific period of time has lapsed from receipt of the instruction signal.

In an embodiment, at least two sensors are spaced along the length of the infeeding conveyor and may be located in an area surrounding the infeeding conveyor or on the infeeding conveyor itself. The method further comprising steps wherein the sensors are arranged to detect the translation of a piece of baggage and to send a signal to the

controlling device. The power or amplitude emitted by each sensor may, for example, be related or proportional to a presence of the piece of baggage in the sensor perimeter. As the piece of baggage leaves the sensor sensing range the signal power or amplitude may decrease, and as it enters the range of the second sensor the power or amplitude of the output signal of the second sensor increases. In another embodiment, more than two sensors may be used for this purpose. The controlling device may be arranged to use the sensor output signals to determine whether the piece of baggage has moved past a certain location or point, and based on the determination, deactivate the infeeding conveyor and baggage access gate. The controlling device may further receive input from the baggage collection element. It may be the case that a baggage collection element is not available for transfer of the piece of baggage. The baggage collection element must have an available window or slot in order to receive baggage from the infeeding conveyors. The controlling device may be arranged to send a hold signal to the infeeding conveyor and baggage access gate in order to maintain the piece of baggage on the infeeding conveyor until it receives indication of an available window in the baggage collection element. The indication of the available window may include details about the timing and length of the window or windows.

In a further embodiment, the baggage access gate may provide for manual operation that overrides the controller and which may be activated by an authorized individual in possession of an instrument granting such access, such as a code or access card or a key. This may be necessary in cases such as emergencies, maintenance procedures or personnel training operations. The manual operation may allow moving the baggage access gate from a closed to an open position, and/or vice versa.

The embodiments of the baggage checking device as disclosed herein may not be limited to use at an airport baggage checking area, but may be used in other facilities such as logistics facilities, transport and loading equipment and/or facilities, prison visiting and/or screening areas, passenger ship baggage loading or screening area, and entry and/or security checkpoints at government or private facilities, among others.

C O N C L U S I E S

1. Inrichting voor het inchecken van bagage omvattende,
een invoertransportinrichting met een transportrichting en ingericht voor het transporteren van een bagagestuk van een bagage presenteergebied naar een bagage verzamelelement,
een bagage toegangspoort die beweegbaar is tussen een open positie en een gesloten positie en ingericht voor het besturen van doorgang van een bagagestuk van het bagagepresenteergebied naar het bagageverzamelelement,
een invoerinrichting met een invoermechanisme dat activeerbaar is door een operator en ingericht is voor het zenden van een instructiesignaal wanneer geactiveerd door de operator,
een besturingsinrichting, waarbij de besturingsinrichting is verbonden met de invoerinrichting voor het ontvangen van het instructiesignaal van de invoerinrichting en ingericht is voor het zenden van signalen aan de invoertransportinrichting en de bagagetoegangspoort,
waarbij de besturingsinrichting is ingericht voor, in antwoord op het ontvangen van het instructiesignaal van de invoerinrichting:
- het zenden van een invoertransportinrichting actuatiesignaal aan de invoertransportinrichting, waarbij het invoertransportinrichting actuatiesignaal de invoertransportinrichting actueert zodat het bagagestuk van het bagagepresenteergebied naar het bageageverzamelelement wordt getransporteerd, en
- het zenden van een bagagetoegangspoort actuatiesignaal aan de bagagetoegangspoort voor het actueren van de bagagetoegangspoort om te bewegen van de gesloten positie naar de open positie om doorgang van het bagagestuk toe te staan.

2. Inrichting volgens conclusie 1, verder omvattende ten minste een sensor op de invoertransportinrichting, waarbij de ten minste ene sensor is ingericht voor het zenden van een sensoroutputsignaal aan de besturingsinrichting, waarbij de ten minste ene sensor is ingericht voor het meten van een gewicht gerelateerde parameter van het bagagestuk, waarbij de besturingsinrichting verder is ingericht voor het waarschuwen van een operator wanneer de gewicht gerelateerde parameter een drempel overschrijdt, en het negeren van het instructiesignaal wanneer ontvangen.

3. Inrichting volgens een van de voorgaande conclusies, verder omvattende een naderingssensor die ingericht is voor het zenden van een sensoroutputsignaal aan de besturingsinrichting, waarbij de naderingssensor is ingericht voor het meten van een nadering van het bagagestuk naar de bagagetoegangspoort, waarbij de besturingsinrichting is ingericht voor, in antwoord op het ontvangen van een naderingssensor uitgangssignaal

dat de nadering van het bagagestuk naar de bagagetoegangspoort aangeeft, het zenden van een actuatiesignaal aan de bagagetoegangspoort dat ervoor zorgt de bagagetoegangspoort beweegt van een gesloten positie naar een open positie.

4. Inrichting volgens conclusie 3, waarbij de naderingssensor een matrix omvat met detectoren die in hoofdzaak parallel aan de transportrichting zijn ingericht.

5. Inrichting volgens een van conclusies 1-4, verder omvattende een doorgangssensor die ingericht is voor het detecteren van doorgang van het bagagestuk door de bagagetoegangspoort, waarbij de besturingsinrichting is ingericht voor, in antwoord op het ontvangen van een doorgangssensor uitgangssignaal dat doorgang van het bagagestuk door de bagagetoegangspoort die aangeeft, zenden van een actuatiesignaal aan de bagagetoegangspoort dat ervoor zorgt dat deze van een open positie naar een gesloten positie beweegt.

6. Inrichting volgens conclusie 5, waarbij de doorgangssensor een matrix met sensoren omvat die in hoofdzaak loodrecht op de transportrichting zijn ingericht.

7. Inrichting volgens een van de voorgaande conclusies, waarbij de besturingsinrichting activatie en de-activatie van de invoertransportinrichting en bagagetoegangspoort bestuurt gebaseerd op een combinatie van de instructie die ontvangen is van de invoerinrichting en invoer die ontvangen is van ten minste een sensor.

8. Inrichting volgens conclusie 1, waarbij de besturingsinrichting is ingericht voor het deactiveren van een invoertransportinrichting hetgeen ervoor zorgt dat deze stopt met lopen, en voor het deactiveren van de bagagetoegangspoort hetgeen ervoor zorgt dat deze beweegt van een open positie naar een gesloten positie, nadat een specifieke tijdsperiode is verlopen na activatie volgend op het instructiesignaal.

9. Werkwijze voor het inchecken van bagage omvattende,
het ontvangen van een bagagestuk op een bagagepresenteergebied van een invoertransportinrichting, waarbij de invoertransportinrichting een transportrichting heeft,
het ontvangen van een opdracht van een invoerinrichting, welke opdracht ervoor zorgt dat de invoerinrichting een instructiesignaal aan een besturingsinrichting zendt,
het zenden, door de besturingsinrichting, in antwoord op een ontvangen van het instructiesignaal van de invoerinrichting, van activatiesignalen aan de invoertransportinrichting en aan een bagagetoegangspoort, hetgeen ervoor zorgt dat de

invoertransportinrichting het bagagestuk transporteert naar een bagageverzamelelement, en ervoor zorgt dat de bagagetoegangspoort beweegt van een gesloten positie naar een open positie voor het toestaan van doorgang van het bagagestuk van de invoertransportinrichting naar het bagageverzamelelement.

10. Werkwijze volgens conclusie 9, verder omvattende het meten van een gewicht gerelateerde parameter van het bagagestuk en het zenden van een sensoroutputsignaal aan de besturingsinrichting, waarbij de besturingsinrichting een operator waarschuwt wanneer het bagagestuk een gewichtsdrempelwaarde overschrijdt, en wanneer de gewichtsdrempelwaarde is overschreden, de besturingsinrichting verder een instructiesignaal wanneer ontvangen negeert.

11. Werkwijze volgens conclusie 9, waarbij de besturingsinrichting invoer ontvangt van ten minste een sensor, en toegang van het bagagestuk tot het bagageverzamelelement weigert of toestaat gebaseerd op de invoer die is ontvangen van de ten minste ene sensor, en een instructiesignaal voor het activeren van de invoertransportinrichting en bagagetoegangspoort negeert wanneer toegang wordt geweigerd.

12. Werkwijze volgens conclusie 9 of 10, verder omvattende het meten van nadering van het bagagestuk tot de bagagetoegangspoort, en het zenden van een naderingssensorsignaal aan de besturingsinrichting wanneer, gebaseerd op het naderingssensorsignaal de besturingsinrichting een actuatiesignaal zendt aan de bagagetoegangspoort hetgeen ervoor zorgt dat de bagagetoegangspoort beweegt van een gesloten positie naar een open positie.

13. Werkwijze volgens een van conclusies 9-11, verder omvattende een meten van doorgang van het bagagestuk door de bagagetoegangspoort, waarbij gebaseerd op een doorgangssensorsignaal, de besturingsinrichting een actuatiesignaal zendt aan de bagagetoegangspoort hetgeen ervoor zorgt dat de bagagetoegangspoort beweegt van een open positie naar een gesloten positie.

14. Werkwijze volgens conclusie 9, verder omvattende het zenden van een de-activatie van de besturingsinrichting naar de invoertransportinrichting en bagagetoegangspoort, hetgeen ervoor zorgt dat de invoertransportinrichting stopt met lopen en de bagagetoegangspoort beweegt van een open positie naar een gesloten positie nadat een specifieke tijdsperiode is verlopen vanaf de ontvangst van de het instructiesignaal.

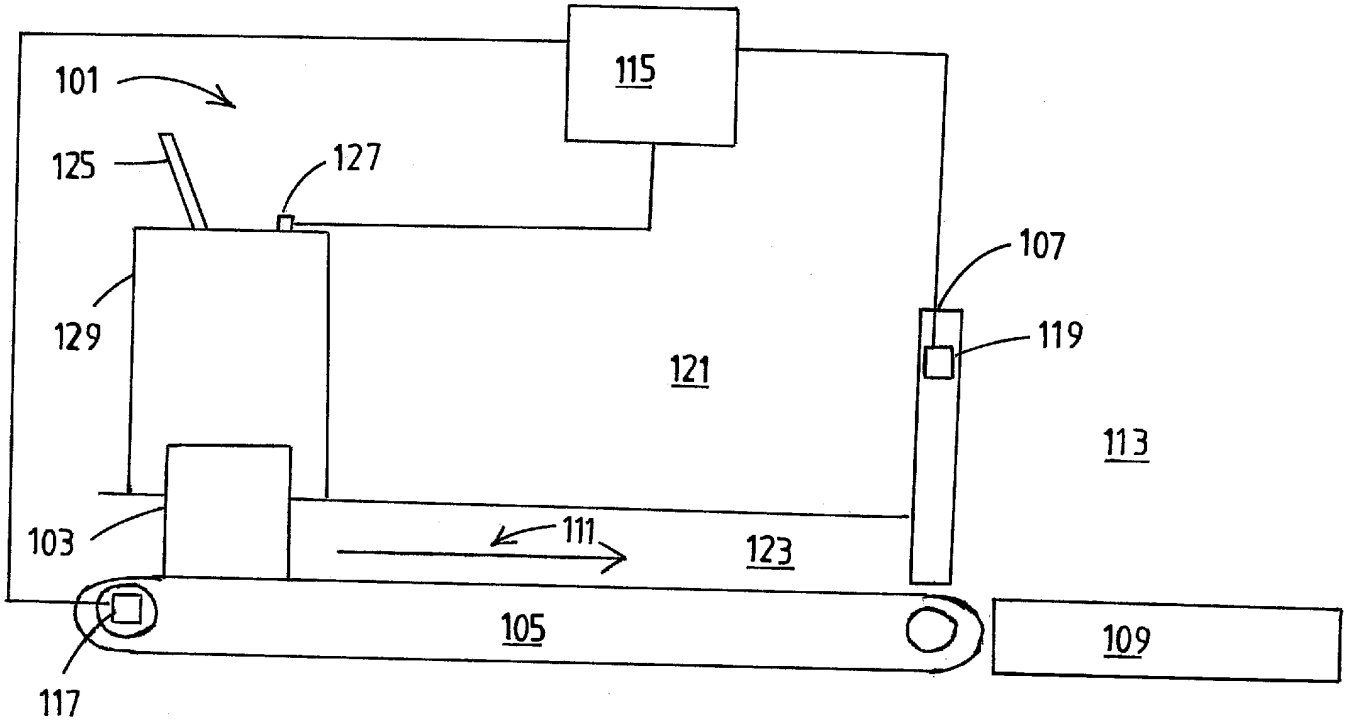

Fig.1

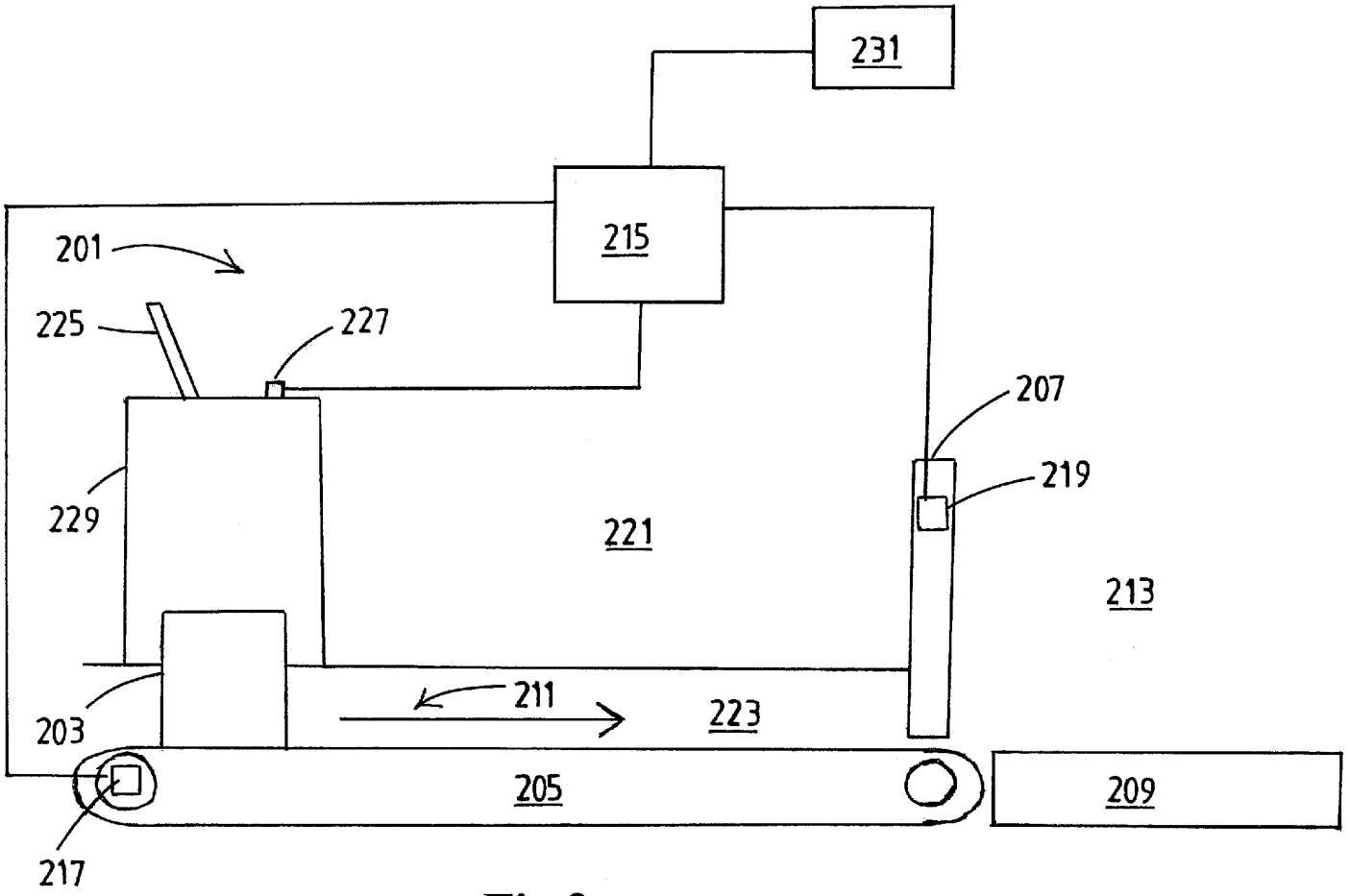

Fig.2

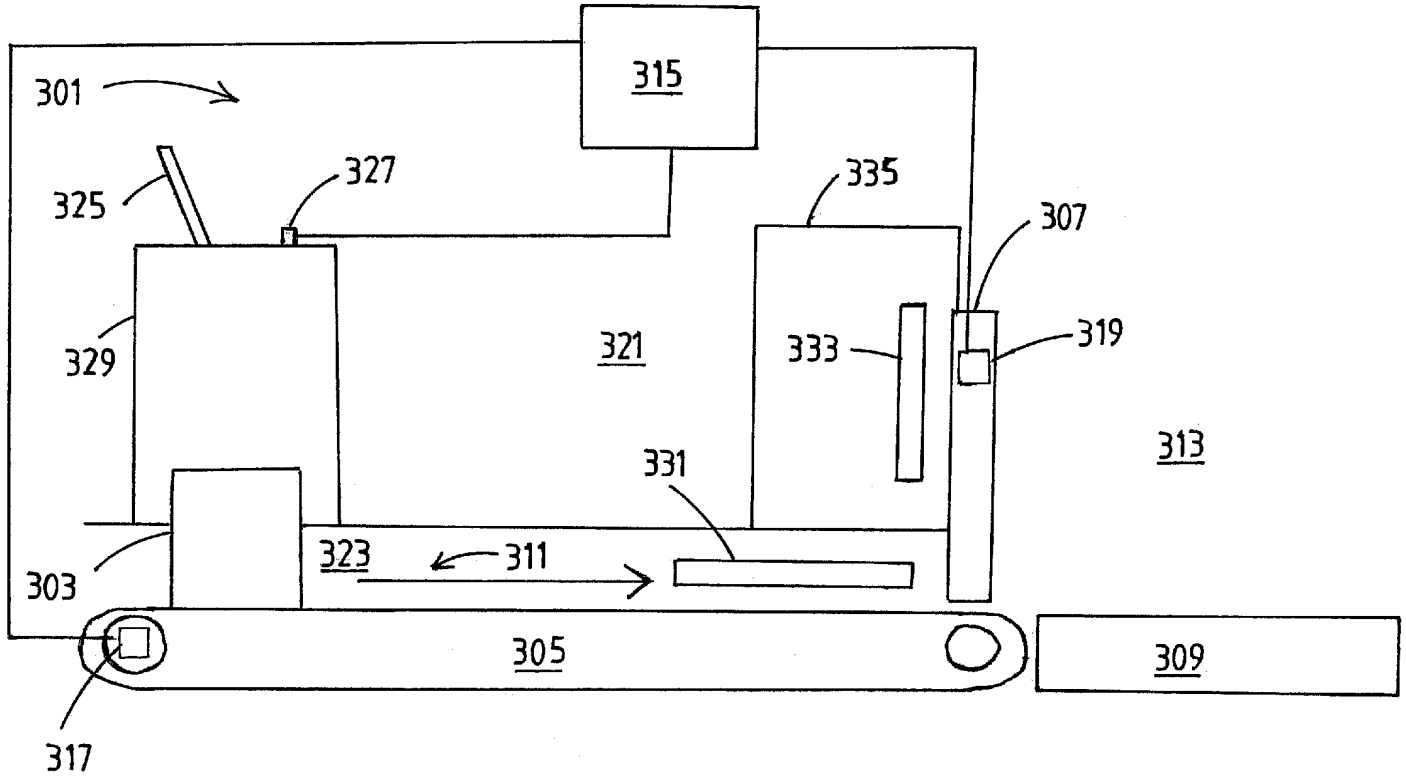
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Fig.3

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE
	P31479NL00/HSE
Nederlands aanvraag nr. **2010160**	Indieningsdatum **22-01-2013**
	Ingeroepen voorrangsdatum

Aanvrager (Naam)

AsGas Industriële Veiligheid B.V.

Datum van het verzoek voor een onderzoek van internationaal type	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr.
06-04-2013	**SN 59841**

I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)

Volgens de internationale classificatie (IPC)

B64F1/36

II. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimumdocumentatie

Classificatiesysteem	Classificatiesymbolen
IPC	**B64F**

Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

III.	☐ **GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES**	(opmerkingen op aanvullingsblad)
IV.	☐ **GEBREK AAN EENHEID VAN UITVINDING**	(opmerkingen op aanvullingsblad)

ONDERZOEKSRAPPORT BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE

Nummer van het verzoek om een onderzoek naar de stand van de techniek
NL 2010160

A. CLASSIFICATIE VAN HET ONDERWERP
INV. B64F1/36
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte miminum documentatie (classificatie gevolgd door classificatiesymbolen)
B64F

Onderzochte andere documentatie dan de mimimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)
EPO-Internal

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	WO 2008/082300 A1 (SCARABEE ID B V [NL]; TAN MICHAEL KIM [NL]) 10 juli 2008 (2008-07-10) * figuur 1 * * bladzijde 6, regel 5 - bladzijde 8, regel 3 * -----	1-3,5, 7-14

☐ Verdere documenten worden vermeld in het vervolg van vak C.

☒ Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvrage vermeld

"E" eerdere octrooi(aanvrage), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvrage, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"&" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid	Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type
1 oktober 2013	

Naam en adres van de instantie	De bevoegde ambtenaar
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Estrela Calpe, Jordi

1

ONDERZOEKSRAPPORT BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar de stand van de techniek
NL 2010160

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)		Datum van publicatie
WO 2008082300	A1 10-07-2008	AT	483635 T	15-10-2010
		AU	2008203586 A1	10-07-2008
		CA	2673244 A1	10-07-2008
		DK	2114767 T3	31-01-2011
		EP	2114767 A1	11-11-2009
		ES	2354753 T3	17-03-2011
		NL	1033178 C2	11-07-2008
		PT	2114767 E	11-01-2011
		US	2010018839 A1	28-01-2010
		WO	2008082300 A1	10-07-2008

OCTROOICENTRUM NEDERLAND

WRITTEN OPINION

File No.	Filing date *(day/month/year)*	Priority date *(day/month/year)*	Application No.
SN59841	22.01.2013		NL2010160

International Patent Classification (IPC)
INV. B64F1/36

Applicant
AsGas Industriële Veiligheid B.V.

This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the application
- ☐ Box No. VIII Certain observations on the application

	Examiner
	Estrela Calpe, Jordi

Application number

WRITTEN OPINION

NL2010160

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ on paper

   ☐ in electronic form

   c. time of filing/furnishing:

   ☐ contained in the application as filed.

   ☐ filed together with the application in electronic form.

   ☐ furnished subsequently for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes:	Claims	4, 6, 8, 14
	No:	Claims	1-3, 5, 7, 9-13
Inventive step	Yes:	Claims	4, 6
	No:	Claims	1-3, 5, 7-14
Industrial applicability	Yes:	Claims	1-14
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1 WO 2008/082300 A1 (SCARABEE ID B V [NL]; TAN MICHAEL KIM [NL]) 10 juli 2008 (2008-07-10)

2 The present application does not meet the criteria of patentability, because the subject-matter of **independent claims 1 and 9** is not new.

2.1 Document D1 discloses (see fig. 1 and page 6, line 5 to page 8, line 3; the references in parentheses applying to this document):

Inrichting (4) voor het inchecken van bagage omvattende,

een invoertransportinrichting (16,20) met een transportrichting en ingericht voor het transporteren van een bagagestuk (2) van een bagage presenteergebied (10) naar een bagage verzamelelement (12), een bagage toegangspoort (24) die beweegbaar is tussen een open positie en een gesloten positie en ingericht voor het besturen van doorgang van een bagagestuk (2) van het bagagepresenteergebied (10) naar het bagageverzamelelement (12),

een invoerinrichting (16) met een invoermechanisme dat activeerbaar is door een operator (the passenger executing the check-in procedure) *en ingericht is voor het zenden van een instructiesignaal wanneer geactiveerd door de operator,*

een besturingsinrichting (26), waarbij de besturingsinrichting (26) is verbonden met de invoerinrichting (16) voor het ontvangen van het instructiesignaal van de invoerinrichting (16) en ingericht is voor het zenden van signalen aan de invoertransportinrichting (20) en de bagagetoegangspoort (24),

waarbij de besturingsinrichting (26) is ingericht voor, in antwoord op het ontvangen van het instructiesignaal van de invoerinrichting (16):

- het zenden van een invoertransportinrichting actuatiesignaal aan de invoertransportinrichting (16, 20), waarbij het invoertransportinrichting actuatiesignaal de invoertransportinrichting

(16, 20) actueert zodat het bagagestuk (2) van het bagagepresenteergebied (10) naar het bagageverzamelelement (12) wordt getransporteerd, en

- het zenden van een bagagetoegangspoort actuatiesignaal aan de bagagetoegangspoort (24) voor het actueren van de bagagetoegangspoort om te bewegen van de gesloten positie naar de open positie om doorgang van het bagagestuk (2) toe te staan.

All the features of claim 1 are therefore known from D1.

2.2 D1 also shows a "*werkwijze voor het inchecken van bagage*" with all the steps of claim 9.

3 **Dependent claims 2, 3, 5, 7 and 10-13** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty.

3.1 All the features of these claims are also shown by D1.

4 **Dependent claims 8 and 14** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of inventive step.

4.1 Operating the baggage door based on a time elapsed appears to be common practice in the field.

5 The combination of the features of **dependent claims 4 and 6** is neither known from, nor rendered obvious by, the available prior art.

6 **In conclusion**, Claims 1-3, 5 and 7-14 do not meet the requirements of patentability. Claims 4 and 6 appear to meet the requirements of novelty and inventive step.

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Re Item VIII

Certain observations on the application

7 The features of claims 1-14 are not provided with reference signs placed in parentheses.