operate. As the trolley cannot have any protruding parts, the known handle for locking the door is of flat design. This handle is located in a shallow cavity at the front of the door. Yet a further advantage of such a door mechanism is the improved reliability of the lock. In contrast to the transmission mechanism in the door according to NL1019366, the lock according to EP1858367 has no moving parts. As a result, this lock is relatively unsusceptible to malfunction.

Trolleys and galleys for use in airplanes need to comply with strict safety requirements.

One important certification test specifies that a completely filled airplane trolley has to be able to withstand a force of 9g, where g is the gravitational acceleration. This means that while retarding forces of 9g are acting on the trolley, the contents present in the housing have to remain inside the trolley and thus, the door should remain closed. When a sudden change of speed of the airplane occurs during an emergency situation, such as a sudden drop in speed or descent, the contents of the trolley must not be released. For the safety on board the airplane, the contents of the trolley must not become flying projectiles in the airplane's cabin.

The forces which the contents of the housing exert on the door in the closed position during an acceleration of 9g are usually the critical design parameters. If the contents of the trolley have a mass of 80 kg, the forces acting on the door are thus approximately 800 kg. This has to be taken into account with a lock for the door in an airplane trolley. In any case, the lock of an airplane trolley must meet the safety requirements. In this regard, trolleys of this type are subject to a rigorous system of certification.

SHORT DESCRIPTION

Embodiments of the invention seek to provide a device for accommodating objects, in particular for use in an airplane, which has an improved strength.

According to an aspect there is provided a device for accommodating objects, ~~in particular~~the device being for use in a transportation means for transporting a plurality of passengers, e.g. in an airplane, comprising a housing and a door which is pivotable about a pivot axis between an open position and a closed position,

wherein the door, in its closed position, is movable in a direction which extends substantially parallel to the pivot axis between a locked position and an unlocked position, the door, in its locked position, being locked in the closed position, and the

door, in its unlocked position, being pivotable about the pivot axis from the closed to the open position, wherein the door comprises a locking edge and the housing comprises a door post, wherein the locking edge engages with the door post in the locked position to lock the door in its closed position and to allow movement of the door between the locked and the unlocked position in the direction which extends substantially parallel to the pivot axis, wherein the locking edge comprises a first plurality of engagement members and the door post comprises a second plurality of engagement members which engage with respective the first plurality of engagement members of the locking edge in the locked position, and wherein lower edges of the first plurality of engagement members of the locking edge and/or top edges of the second plurality of engagement members of the door post are slanted to facilitate closing of the door.

The locking edge of the door is the edge of the door parallel to and remote from the pivot axis.

This provides an improved way to lock the door in its closed position. By using the locking edge of the door in cooperation with the door post, locking can be achieved in a reliable and strong way.

According to an embodiment the locking edge comprises a plurality of engagement members and the door post comprises a plurality of engagement members which engage with respective engagement members of the locking edge in the locked position.

By providing engagement members on the locking edge and the door post, the locking edge and the door post can engage with each other. By providing a plurality of engagement members, a reliable and strong engagement can be achieved as forces are distributed over the plurality of engagement members.

According to an embodiment the plurality of engagement members of the locking edge and the plurality of engagement members of the door post engage with each other in a direction substantially perpendicular to the pivot axis.

The engagement members are designed to only engage in a direction perpendicular to the pivot axis, such that movement of the door in the direction which extends substantially parallel to the pivot axis between the locked and the unlocked position is allowed. The direction perpendicular to the pivot axis is thus in the pivot direction of the door. This ensures that the door is safely locked.

According to an embodiment the plurality of engagement members of the door post do not engage with respective engagement members of the locking edge in the unlocked position.

This allows moving the door from the closed to the open position in the unlocked position.

CLAIMS

1. A device for accommodating objects, ~~in particular~~the device being for use in ~~an airplane~~a transportation means for transporting a plurality of passengers, comprising a housing and a door which is pivotable about a pivot axis between an open position and a closed position,

wherein the door, in its closed position, is movable in a direction which extends substantially parallel to the pivot axis between a locked position and an unlocked position, the door, in its locked position, being locked in the closed position, and the door, in its unlocked position, being pivotable about the pivot axis from the closed to the open position,

wherein the door comprises a locking edge and the housing comprises a door post, wherein the locking edge engages with the door post in the locked position to lock the door in its closed position and to allow movement of the door between the locked and the unlocked position in the direction which extends substantially parallel to the pivot axis, wherein the locking edge comprises a first plurality of engagement members and the door post comprises a second plurality of engagement members which engage with respective the first plurality of engagement members of the locking edge in the locked position, and wherein lower edges of the first plurality of engagement members of the locking edge and/or top edges of the second plurality of engagement members of the door post are slanted to facilitate closing of the door.

~~2. Device according to claim 1, wherein the locking edge comprises a plurality of engagement members and the door post comprises a plurality of engagement members which engage with respective engagement members of the locking edge in the locked position.~~

~~3~~2. Device according to claim ~~2~~1, wherein the first plurality of engagement members of the locking edge and the second plurality of engagement members of the door post engage with each other in a direction substantially perpendicular to the pivot axis.

43. Device according to any one of the claims 2-1 – 32, wherein the second plurality of engagement members of the door post do not engage with respective first plurality of engagement members of the locking edge in the unlocked position.

54. Device according to any one of the claims 2-1 – 43, wherein the second plurality of engagement members of the door post and the first plurality of engagement members of the locking edge are static engagement members.

65. Device according to any one of the claims 2-1 – 54, wherein the door is moveable between the locked position and the unlocked position in the direction which extends substantially parallel to the pivot axis over an unlocking distance,

and wherein, in the locked position, the first plurality of engagement members of the locking edge engage with respective second plurality of engagement members of the door post along respective engagement distances in the direction which extends substantially parallel to the pivot axis, the engagement distances being smaller than the unlocking distances .

76. Device according to any one of the claims 2-1 - 65, wherein the first plurality of engagement members of the locking edge and the second plurality of engagement members of the door post are distributed along the length of the locking edge and door post respectively.

87. Device according to any one of the claims 2-1 - 76, wherein the first plurality of engagement members of the ~~door~~ locking edge and the second plurality of engagement members of the door post are formed by protrusions that are alternatingly positioned in the direction of the pivot axis in the unlocked position and are at least partially overlapping in the direction of the pivot axis in the locked position.

98. Device according to any one of the claims 2-1 – 87, wherein the first plurality of engagement members of the ~~door~~ locking edge and the second plurality of engagement members of the door post are formed by hook-shaped protrusions, wherein the hook direction of the first plurality of engagement members of the ~~door~~ locking edge are

opposite to the hook direction of the second plurality of engagement members of the door post.

~~10. Device according to any one of the claims 2 – 9, wherein lower edges of the engagement members of the door and/or top edges of the engagement members of the door post are slanted to facilitate closing of the door.~~

~~11~~9. Device according to any one of the preceding claims, wherein the locking edge comprises a first plurality of equally spaced protrusions and the door post comprises a second plurality of equally spaced protrusions, wherein the first plurality of equally spaced protrusions of the locking edge engage with the second plurality of equally spaced protrusions of the door post in the locked position to lock the door in its closed position and allow movement of the door in the direction which extends substantially parallel to the pivot axis between the locked and the unlocked position.

~~12~~10. Device according to any one of the preceding claims, wherein the device is a trolley.

~~13~~11. Galley for use in an airplane, comprising at least one device according to any one of the claims 1 – ~~11~~9.

~~14~~12. Transportation means for transporting a plurality of passengers, comprising at least one device for accommodating objects according to any one of the claims 1 – ~~11~~9.