CLAIMS

1. Compactor trolley (1) for aeronautical applications having a substantially parallelepiped structure and comprising a compactor device positioned in a front upper zone (13) of the trolley (1); the trolley being configured with a compaction chamber comprising a front opening/closing door (14), said compaction chamber being situated underneath the compactor device and designed to house at least one box (16) for collecting the waste which is open at the top (16a) and along the sides (16b), and being provided at the front with a flap (15) for access to the compaction chamber, movable between a closed position and an open position, wherein the compactor device comprises a compaction plate (70) designed to move in both senses of a vertical direction (Z-Z) between a raised rest position and a lowered position for compaction of the waste inside a box housed inside the compaction chamber, wherein the compactor device comprises a safety locking mechanism for the flap (15), arranged inside the trolley and configured to lock mechanically the flap (15) in the closed position when the compaction plate (70) is in a position other than the raised rest position; wherein the safety locking mechanism comprises a first element (51) fixed to the flap (15) and a locking element connected to the trolley structure or the front opening/closing door (14) and movable between a position disengaged from said first element, corresponding to the raised rest position of the compaction plate (70), and a position engaged with the first element, wherein the locking element and the first element fixed to the flap (15) mechanically lock the flap (15) in the closed position when the compaction plate (70) is not in the raised rest position, wherein the first element comprises a collar (51a) which defines a seat or a hole (51b) and is fixed to the flap (15), wherein an axis of the seat or hole (51b) is vertical or transverse (Y-Y), oriented in a direction orthogonal to an axis of an opening/closing hinge of the flap (15), wherein the locking element comprises a sliding pin (52) having dimensions suitable for insertion inside the seat or hole (51b) of the first element (51) so as to cause stable coupling together of the sliding pin (52) and seat or hole in the engaged position of the locking element and first element (51), wherein the

locking element comprises an arm (54) integral with the sliding pin (52) and projecting towards the inside of the trolley structure, so that by operating the arm (54) the sliding pin (52) is actuated in both senses of the sliding direction, and an actuating block (71) integral with the compaction plate (70) in the vertical direction (Z-Z) and comprising an actuating part (71a) designed to act mechanically on the safety locking mechanism so as to cause locking and/or release of the flap (15), said actuating part (71a) being arranged at a height in the vertical direction (Z-Z) situated above the compaction plate (70) and wherein the arm (54), the sliding pin (52) and the collar (51a) are arranged at a height in the vertical direction above the compaction plate (70) in the raised rest position.

2. Compactor trolley according to claim 1, wherein the actuating block (71) is designed to act mechanically on the locking element of the safety locking mechanism in order to cause locking and/or release of the flap (15).

3. Compactor trolley according to any one of the preceding claims, wherein the flap (15) is formed in the front opening/closing door (14) of the compaction chamber for insertion/extraction of the box (16), the flap (15) being movable with respect to the front opening/closing door (14) between a closed position and an open position, by means of rotation about a respective hinging axis arranged on a transverse bottom or vertical lateral side of the flap (15).

4. Compactor trolley according to any one of the preceding claims, wherein the sliding pin (52) is arranged to slide in both senses of a direction parallel to the axis of the hole or seat (51b).

5. Compactor trolley according to any one of the preceding claims, characterized in that a thrust spring (58) is arranged so as to push the locking element towards the position for engagement with the first

element (51), the spring being arranged coaxially around the sliding pin (52), and is designed to act on a head (52a) of the sliding pin (52) which has a diameter greater than a shank (52b) of the pin itself.

6. Compactor trolley according to any one of the preceding claims, wherein the sliding pin (52) is enclosed in a housing (55) which defines a guide for the sliding movement of the sliding pin (52), wherein the housing defines a bearing surface (55a) against which a thrust spring reacts and/or wherein the arm (54) is movable inside a slot (55c) of the housing (55) in both senses of the sliding direction of the sliding pin (52) and projects towards the inside of the trolley with respect to the said housing (55), so that a free end thereof is accessible for operation of the locking element.

7. Compactor trolley according to claim 6, wherein the arm (54) is in the form of a pin which can be coupled by means of screwing together with the sliding pin (52), preferably inside a hole with a female thread having a longitudinal axis, suitable for stable engagement with a thread of an end part (54a) of the arm (54).

8. Compactor trolley according to claim 7, wherein the arm (54) comprises a through-hole (54b) which is orthogonal to its direction of longitudinal extension and is designed to allow the insertion of a tool for facilitating the screwing of the arm (54) onto the sliding pin (52).

9. Compactor trolley according to one of claims 2 to 8, wherein said actuating part of the actuating block (71) is in the form of an end surface (71a) which is arranged and configured to act mechanically on the locking element of the safety locking mechanism, on the arm (54), so as to cause the locking and/or release of the flap (15).

10. Compactor trolley according to claim 9, wherein the end surface

(71a) forms part of a body (71b) of the actuating block which is fixed to the top surface (70a) of the compaction plate (70), wherein the end surface (71a) is inclined, from the top downwards and from the inside towards the locking device (50).

11. Compactor trolley according to any one of the preceding claims, wherein the compaction chamber and/or the front opening/closing door (14) is/are formed by a drawer (11) extractable from the parallelepiped structure of said compactor trolley (1), wherein the drawer (11) is provided laterally with at least one side wall which can be opened when the drawer is open and/or at the front with a handle (17) for the partial or total extraction thereof from the parallelepiped structure of the compactor trolley (1).

12. Compactor trolley (1) according to any one of the preceding claims, wherein the flap (15) is hinged at the bottom or along the sides inside a corresponding open recess of the front opening/closing door (14) and can be opened towards the inside or towards the outside of the trolley (1) through an opening angle of between 20° and 180°, being moreover provided with safety closing systems (15a) situated on the outside of the front opening/closing door (14) and/or safety sensors (15a) for enabling compaction.

13. Method for the compaction of waste in the aeronautical sector by means of a compactor trolley (1) having a substantially parallelepiped structure and comprising a compactor device positioned in a front upper zone (13) of the trolley (1), the method comprising:

- housing at least one box (16), which is open at the top (16a) and on the sides (16b) and inside which waste to be compacted is collected, in a compaction chamber of the trolley, in a position situated below a compaction plate (70) of the compaction device;
- closing a flap (15) for access to the compaction chamber;
- operating the compaction plate (70) of the compaction device in a vertical direction from a raised rest position into a lowered position, for compaction of the waste inside the box (16) housed in the compaction

chamber;
further comprising mechanically locking the flap (15) in the closed position when the compaction plate (70) moves into a position other than the raised rest position, by means of a safety locking mechanism for the flap (15), which is arranged inside the trolley and operated by an actuating block (71) integral with the compaction plate (70) in a vertical direction (Z-Z) by means of an actuating part (71a) which acts mechanically on the safety locking mechanism so as to cause the locking and/or release of the flap (15), said actuating part (71a) being arranged at a height in the vertical direction (Z-Z) situated above the compaction plate (70); wherein the safety locking mechanism comprises a first element (51) fixed to the flap (15) and a locking element connected to the trolley structure or a front opening/closing door (14) of the compaction chamber and movable between a position disengaged from said first element, corresponding to the raised rest position of the compaction plate (70), and a position engaged with the first element, wherein the locking element and the first element fixed to the flap (15) mechanically lock the flap (15) in the closed position when the compaction plate (70) is not in the raised rest position, wherein the first element comprises a collar (51a) which defines a seat or a hole (51b) and is fixed to the flap (15), wherein an axis of the seat or hole (51b) is vertical or transverse (Y-Y), oriented in a direction orthogonal to an axis of an opening/closing hinge of the flap (15), wherein the locking element comprises a sliding pin (52) having dimensions suitable for insertion inside the seat or hole (51b) of the first element (51) so as to cause stable coupling together of the sliding pin and seat or hole in the engaged position of the locking element and first element (51), wherein the locking element comprises an arm (54) integral with the sliding pin (52) and projecting towards the inside of the trolley structure, so that by operating the arm (54) the sliding pin (52) is actuated in both senses of the sliding direction,
and wherein the arm (54), the sliding pin (52) and the collar (51a) are arranged at a height in the vertical direction above the compaction plate (70) in the raised rest position.