CLAIMS

1. Device (3) for dispensing a plurality of unitary doses (2) of dry powder, comprising at least one support (25a, 25b) for a carrier (15) having a plurality of housings for respective unitary doses (2), the support (25a, 25b) comprising a plurality of conduits adapted to be connected respectively to the housings, each conduit defining a flow path for an airstream carrying the unitary dose (2) through inhalation by a user, wherein the support (25a, 25b) has:

- a first member (26) having a plurality of first conduit portions (29) adjacent to each other, and a plurality of first separation portions (30) each arranged between two adjacent first conduit portions (29), and

- a second member (27) having a plurality of second conduit portions (43) adjacent to each other, and a plurality of second separation portions (45) each arranged between two adjacent second conduit portions (43),

the first (26) and second (27) members being secured to one another so that each first conduit portion (29) faces one corresponding of the second conduit portions (43) to define one of the conduits, and each first separation portion (30) faces one corresponding of the second separation portions (45),

the device (3) being characterised in that the support (25a, 25b) comprises a plurality of barrier-forming elements (31, 46; 52; 131, 146; 231, 246, 53) each arranged between corresponding first (30) and second (45) separation portions to prevent dry powder from passing from one of the conduits to one of the adjacent conduits.

2. Device (3) according to claim 1, wherein at least one of the barrier-forming elements (31, 46; 131, 146; 231, 246, 53) comprises a baffle between the corresponding first (30) and second (45) separation portions.

3. Device (3) according to claim 1 or 2, wherein at least one of the barrier-forming elements comprises at least one rib (31; 131; 231) and at least one groove (46; 146; 246) adapted to receive said rib (31; 131; 231), one of said rib (31; 131; 231) and said groove (46; 146; 246) being arranged on the first separation portion (30) and the other of said rib (31; 131; 231) and

said groove (46; 146; 246) being arranged on the corresponding second separation portion (45).

4. Device (3) according to claim 3, wherein said rib (131) includes a first pair of opposed surfaces inclined with respect to one another, and said groove (146) includes a second pair of opposed surfaces inclined with respect to one another and complementary to said first pair of opposed surfaces.

5. Device (3) according to any of claims 1 to 4, wherein at least one of the barrier-forming elements comprises an additive layer (52) interposed between the corresponding first (30) and second (45) separation portions.

6. Device (3) according to any of claims 1 to 5, wherein at least one of the barrier-forming elements comprises a welded connection (53) of the corresponding first (30) and second (45) separation portions.

7. Device (3) according to claim 6, wherein at least the first (30) and second (45) separation portions of the first (26) and second (27) members are made of thermoplastic material, the welded connection being made by an ultrasonic welding process.

8. Device (3) according to any of claims 1 to 7, further comprising a casing (5) provided with a mouthpiece (6) for inhalation by the user, the support (25a, 25b) being moveably mounted within the casing (5) so as to bring successively each conduit in communication with the mouthpiece (6).

9. Device (3) according to claim 8, wherein the support (25a, 25b) is of circular configuration, the conduits being adjacent to each other in a circumferential direction, the conduits and the first (30) and second (45) separation portions extending in radial directions, and the support (25a, 25b) is rotatably mounted within the casing (5) with respect to a central axis (A).

10. Device (3) according to claim 9, wherein the first member consists in a first concave plate (26) provided with a plurality of through-holes (29) forming the first conduit portions, said through-holes (29) being delimited by radial walls (30) as the first separation portions, the first concave plate (26) being adapted to accommodate the carrier (15) in its concavity with the through-holes (29) in correspondence respectively with the housings.

11. Device (3) according to claim 10, wherein the second member consists in a second concave plate (27) provided with a plurality of channels (43) having each an inlet (42) and an outlet (44) and forming the second conduit portions, said channels (43) being delimited by radial walls (45) as the second separation portions, the second concave plate (27) accommodating the first concave plate (26) in its concavity, such that the first concave plate (26) is interposed between the second concave plate (27) and the carrier (15), with the channels (43) in communication respectively with the through-holes (29).

12. Device (3) according to any of claims 1 to 11, comprising two supports (25a, 25b) respectively for two carriers (15).

13. Inhaler (1) comprising a device (3) for dispensing a plurality of unitary doses (2) of dry powder according to any of claims 1 to 12, and at least one carrier (15) having a plurality of housings for respective unitary doses (2), the carrier (15) being associated with the support (25a, 25b).

14. Inhaler (1) according to claim 13, wherein the carrier (15) is formed of a plate provided with a plurality of through-holes (18) in which the housings are moveably mounted between a storage position, in which said housing is flush with the carrier (15), and a discharge position, in which said housing protrudes from the carrier, the device (3) further comprising an assembly for successively moving each housing from the storage position to the discharge position in which said housing extends within one of the first conduit portions (29) of the first member (26).

15. Inhaler (1) according to claim 13 or 14, wherein the device (3) comprises two supports (25a, 25b), two carriers (15) being each associated with a respective support (25a, 25b).