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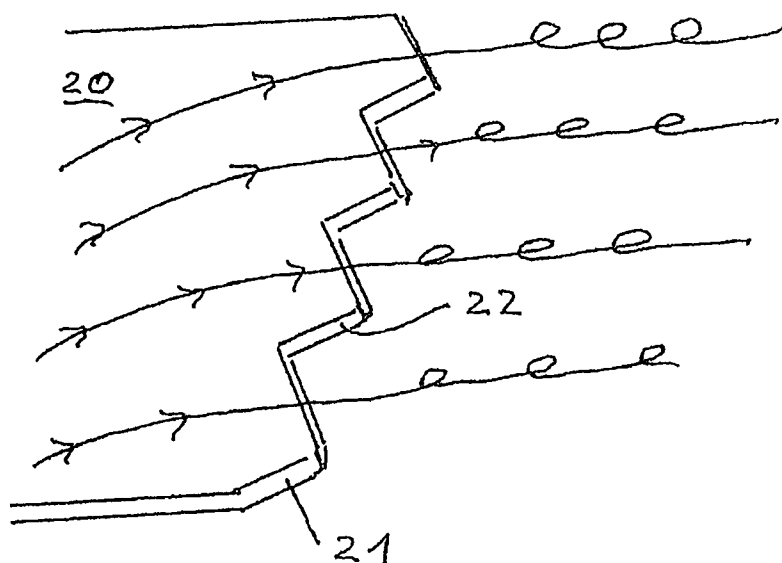
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(54) **Title:** **BRAKE FLAP FOR AN AIRCRAFT**



(57) **Abstract:** Described is a brake flap for an aircraft, which brake flap, for the purpose of delaying the aircraft, can be set at an angle relative to the airstream flowing around it, wherein the flap (20) comprises a free edge (21) which when set at an angle is spaced apart from the exterior skin of the aircraft, and generates an edge vortex in the airstream flowing around said aircraft. According to the invention the free edge (21) comprises a number of individual edge sections (22) that divide the edge vortex into a number of partial vortices.

AMENDED CLAIMS

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New Claims

1. A brake flap for an aircraft, which brake flap, for the purpose of delaying the aircraft, can be set at an angle relative to the airstream flowing around it, wherein the flap (20; 30; 40; 50) comprises a free edge (21; 31; 41; 51) which when set at an angle is spaced apart from the exterior skin of the aircraft, and generates an edge vortex in the airstream flowing around said aircraft, wherein the free edge (21; 31; 41; 51) comprises a number of individual edge sections (22; 32; 42; 52) that divide the edge vortex into a number of partial vortices, wherein the flap (20; 30; 40; 50) is arranged at least on one of a top of the wing and a fuselage of the aircraft,

2. The brake flap of claim 1, wherein the individual edge sections (32) that divide the edge vortex into a number of partial vortices are formed by a wave-shaped design of the free edge (31).

3. The brake flap of claim 1, wherein the individual edge sections (22) that divide the edge vortex into a number of partial vortices are formed by a zigzag design of the free edge (21).

4. The brake flap of claim 1, 2 or 3, wherein the individual edge sections that divide the edge vortex into a number of partial vortices are formed by holes or recesses (42) that are provided near the free edge (41) in the brake flap (40).

5. The brake flap of claim 4, wherein the holes or recesses (42) that are provided in the brake flap (40) are provided in the form of through-perforations in the flap (40).

6. The brake flap of claim 4, wherein the holes or recesses (42) that are provided in the brake flap (40) are provided in the form of depressions on the outside of the flap (40), which depressions do not perforate the flap (40).

7. The brake flap of any one of claims 1 to 6, wherein the individual edge sections that divide the edge vortex into a number of partial vortices are formed by shoulders or projections (52) provided near the free edge (51) on the surface of the brake flap (50).

8. The brake flap of any one of claims 1 to 7, wherein one end of the flap (20; 30; 40; 50) is hinged to the aircraft while the individual edge sections (22; 32; 42; 52) that divide the edge vortex into a number of partial vortices are provided on the free edge (21; 31; 41; 51) of the flap (20; 30; 40; 50), which free edge (21; 31; 41; 51) is located opposite the hinged end.

9. The brake flap of any one of claims 1 to 7, wherein one end of the flap (20; 30; 40; 50) is hinged to the aircraft, while the individual edge sections (22; 32; 42; 52) that divide the edge vortex into a number of partial vortices are provided on one or both lateral edges of the flap (20; 30; 40; 50).

10. The brake flap of any one of claims 1 to 7, wherein one end of the flap (20; 30; 40; 50) is hinged to the aircraft, while the individual edge sections (22; 32; 42; 52) that divide the edge vortex into a number of partial vortices are provided on the free edge (21; 31; 41; 51) that is opposite the hinged end of the flap (20; 30; 40; 50) and on one lateral edge or both lateral edges of the flap (20; 30; 40; 50).

11. The brake flap of claim 7, wherein the flap (20; 30; 40; 50) is also used for roll control of the aircraft.