

F15D

FLUID DYNAMICS, i.e. METHODS OR MEANS FOR INFLUENCING THE FLOW OF GASES OR LIQUIDS ({nozzles, spray heads [B05B](#); devices to decrease friction or resistance or to increase speed of ships [B63B](#); ship rudders [B63H 25/38](#); influencing the flow or the viscosity of fluids with chemical additives [C09K 3/00](#), [C10M](#); hydraulic engineering [E02B](#)}; fluid circuit elements [F15C](#); {one-way check valves [F16K 15/00](#)})

Definition statement

This place covers:

Means and methods not provided for in other classes, for influencing the flow of fluids relative to constraining surfaces and after leaving these surfaces, e.g. producing or removing turbulence, deflecting jets, guiding flow through bends in conduits, affecting distribution of fluid in a conduit, reducing fluid friction.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Nozzles, spray heads	B05B
Devices to decrease friction or resistance or to increase speed of ships	B63B
Ship rudders	B63H 25/38
Influencing air-flow over aircraft surfaces	B64C 21/00
Influencing the flow or the viscosity of fluids with chemical additives	C09K 3/00 , C10M
Hydraulic engineering	E02B

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Influencing flow of fluids

Definition statement

This place covers:

Means and methods not provided for in other classes, for influencing the flow of fluids, i.e. the flow of liquids or gases relative to constraining surfaces and after leaving these surfaces, e.g. producing or removing turbulence, deflecting jets, guiding flow through bends in conduits, affecting distribution of fluid in a conduit, reducing fluid friction.

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{Flow of fluid from conduits such as pipes, sleeves, tubes, with equal distribution of fluid flow over the evacuation surface}

Definition statement

This place covers:

Means for equalising the velocity distribution across the cross section of a fluid conduit.

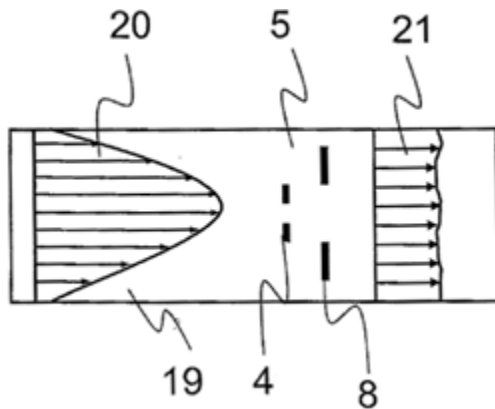


Fig. from WO2008071683

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{Whirl chambers}

Definition statement

This place covers:

E.g. vortex valves

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by influencing the boundary layer {(use of materials, e.g. to reduce surface friction [C09K 3/00](#))}

Definition statement

This place covers:

Illustrative example of subject matter classified in this group.

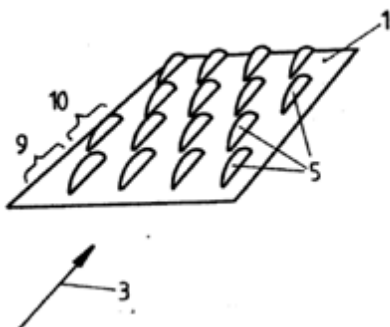


Fig. from DE3609541

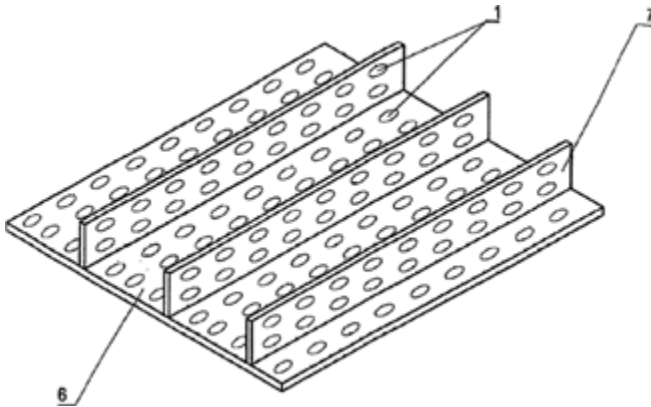


Fig. from EP2103818

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Golf balls having dimples	A63B 37/0004
Influencing air-flow over aircraft surfaces by affecting boundary-layer flow using e.g. riblets	B64C 21/10

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- "riblet", "rille" (DE), "rippe" (DE) and "rainure" (FR)
- " boundary layer", "Grenzschicht" (DE)