

## B64C

### AEROPLANES; HELICOPTERS

#### References

##### *Informative references*

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

Air-cushion vehicles	<a href="#">B60V</a>
Unmanned aerial vehicles [UAV], e.g. drones	<a href="#">B64U</a>

## B64C 1/00

### Fuselages; Constructional features common to fuselages, wings, stabilising surfaces or the like

#### Definition statement

*This place covers:*

- Overall fuselage shapes and concepts (only documents relating thereto are attributed the symbol [B64C 1/00](#), when the emphasis is on aerodynamic aspects the symbol [B64C 1/0009](#) is attributed).
- Structural features (including frames, stringers, longerons, bulkheads, skin panels and interior liners).
- Windows and doors (including hatch covers, access panels, drain masts, canopies and windscreens).
- Fuselage structures adapted for mounting power plants, floors, integral loading means (such as steps).
- Attachment of wing or tail units or stabilising surfaces to the fuselage.
- Relatively movable fuselage parts (for improving pilot's view or for reducing size for storage).
- Severable/jettisonable parts for facilitating emergency escape.
- Inflatable fuselage components.
- Fuselage adaptations for receiving aerials or radomes.
- Passive cooling of fuselage structures and sound/heat insulation (including isolation mats, and clips for mounting such mats and components such as pipes or cables).

#### References

##### *Informative references*

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

Aerodynamical features common to fuselages, wings, stabilising surfaces or the like	<a href="#">B64C 23/00</a>
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#### Special rules of classification

Structures and components for helicopters falling within this main group and/or appended subgroups are additionally attributed the symbol [B64C 27/04](#).

As an example, a helicopter fuselage with crash absorbing frames would be attributed the symbols [B64C 1/062](#) and [B64C 27/04](#).

## B64C 1/0009

{Aerodynamic aspects}

### Definition statement

*This place covers:*

Complete fuselage shapes for obtaining aerodynamic effects, e.g. reduced drag.

## B64C 1/06

Frames; Stringers; Longerons {; Fuselage sections}

### References

#### Informative references

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

plastic composite structures, frames, stringers, spars, beams, longerons, stringers and skins (also filament-wounded fuselage shells) (working with plastics)	<a href="#">B29C</a>
plastic composite structures, frames, stringers, spars, beams, longerons, stringers and skins (also filament-wounded fuselage shells) (laminates)	<a href="#">B32B</a>

## B64C 1/061

{Frames}

### Relationships with other classification places

Fuselage bulkheads: [B64C 1/10](#)

## B64C 1/063

{Folding or collapsing to reduce overall dimensions, e.g. foldable tail booms}

### References

#### Informative references

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

Parts of fuselage relatively moveable to reduce overall size for storage	<a href="#">B64C 1/30</a>
Folding or collapsing wings	<a href="#">B64C 3/56</a>

## B64C 1/064

{Stringers; Longerons}

### References

#### Informative references

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

Specifically for wings	<a href="#">B64C 3/182</a>
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## B64C 1/065

{Spars}

### Relationships with other classification places

Specifically for wings: [B64C 3/185](#)

## B64C 1/066

{Interior liners}

### Definition statement

*This place covers:*

Interior liners for aesthetic and/or protective purposes generally following the shape of the fuselage and visible from the inside in the completed fuselage.

### References

#### Informative references

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

Sound or heat insulating mat assemblies for being positioned adjacent the fuselage outer skin	<a href="#">B64C 1/40</a>
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## B64C 1/068

{Fuselage sections}

### Definition statement

*This place covers:*

Complete fuselage structures (frames, stringers, skin) with the emphasis on structural features.

### Relationships with other classification places

Assembling (e.g. moving, positioning) fuselage components (e.g. barrels) into a complete fuselage: [B64F 5/10](#)

### References

#### Informative references

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

Working with plastics: documents describing plastic composite fuselage shells can also be attributed the symbols	<a href="#">B29C</a>
Laminates only: when the emphasis is on manufacturing issues rather than the function in an aircraft context	<a href="#">B32B</a>

## B64C 1/0683

### {Nose cones}

#### Definition statement

*This place covers:*

Constructional features specially adapted for the nose of the fuselage.

#### References

##### *Informative references*

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

Nose cones for missiles or torpedoes	<a href="#">F42B 10/46</a> , <a href="#">F42B 10/52</a>
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## B64C 1/0685

### {Tail cones}

#### Definition statement

*This place covers:*

Constructional features specially adapted for the aft end of the fuselage.

#### References

##### *Informative references*

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

Mountings for vertical or horizontal stabilizers	<a href="#">B64C 1/26</a>
Mountings for auxiliary power units	<a href="#">B64D 2041/002</a>

## B64C 1/10

### Bulkheads

#### Definition statement

*This place covers:*

Aircraft fuselage bulkheads such as pressure bulkheads.

#### References

##### *Informative references*

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

Fuselage frames	<a href="#">B64C 1/061</a>
Cabin dividers for class separation	<a href="#">B64D 11/0023</a>

## B64C 1/12

### Construction or attachment of skin panels

#### Relationships with other classification places

Skins specifically for wings: [B64C 3/26](#)

#### Special rules of classification

Aircraft skin structures with integral lightning protection features are concurrently attributed the symbols [B64C 1/12](#) and [B64D 45/02](#) (aircraft lightning protectors).

## B64C 1/14

**Windows; Doors; Hatch covers or access panels; Surrounding frame structures; Canopies; Windscreens {accessories therefor, e.g. pressure sensors, water deflectors, hinges, seals, handles, latches, windscreen wipers} (fairings movable in conjunction with undercarriage elements [B64C 25/16](#); bomb doors [B64D 1/06](#))**

### References

#### Limiting references

*This place does not cover:*

Fairings movable in conjunction with undercarriage elements	<a href="#">B64C 25/16</a>
Bomb doors	<a href="#">B64D 1/06</a>

#### Informative references

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

Cleaning vehicle windows and windscreens	<a href="#">B60S 1/02</a> - <a href="#">B60S 1/606</a>
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## B64C 1/1407

**{Doors; surrounding frames}**

### References

#### Informative references

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

Door and window locks, handles and latches in general	<a href="#">E05B</a>
Door and window operating mechanisms in general	<a href="#">E05F</a>
Doors and windows in general	<a href="#">E06B</a>

**B64C 1/1415****{Cargo doors, e.g. incorporating ramps}****Relationships with other classification places**Other structures integral with the fuselage to facilitate loading (e.g. cargo bays, cranes): [B64C 1/22](#)**B64C 1/1446****{Inspection hatches (for engine cowls [B64D 29/08](#))}****References****Limiting references***This place does not cover:*

Inspection hatches for engine cowls and nacelles	<a href="#">B64D 29/08</a>
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**B64C 1/1469****{Doors between cockpit and cabin}****Relationships with other classification places**Doors or door arrangements specially adapted to restrict unauthorized access are classified in this place ([B64C 1/1469](#)) and in [B64D 45/0028](#) (multiple classification).**B64C 1/1476****{Canopies; Windscreens or similar transparent elements}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Windows in vehicles	<a href="#">B60J</a>
Windows in trains	<a href="#">B61D 25/00</a>

**B64C 1/1492****{Structure and mounting of the transparent elements in the window or windscreen}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Pyrotechnics for shattering canopies	<a href="#">B64C 1/32</a>
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## B64C 1/16

**specially adapted for mounting power plant**

### References

#### *Informative references*

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

Aircraft characterised by piston type power plant within or attached to the fuselage	<a href="#">B64D 27/08</a>
Aircraft characterised by gas-turbine type power plant within or attached to the fuselage	<a href="#">B64D 27/14</a>
Aircraft characterised by jet type power plant within or attached to the fuselage	<a href="#">B64D 27/20</a>
Arrangements for mounting power plants in aircraft	<a href="#">B64D 27/40</a>

## B64C 1/18

### Floors

#### Definition statement

*This place covers:*

- Construction of aircraft floors.
- Decompression valves for mounting in the floor region.

## B64C 1/20

**specially adapted for freight**

#### Definition statement

*This place covers:*

- Aircraft floors specially adapted to freight by virtue of location, strength and/or shape(s);
- Aircraft floors with anchoring points or rails for freight;
- Aircraft seat rails.

### References

#### *Informative references*

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

Roller trays, Power Drive Units (PDU), clamping devices and other devices for moving and/or securing freight	<a href="#">B64D 9/003</a>
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## B64C 1/22

**Other structures integral with fuselages to facilitate loading {, e.g. cargo bays, cranes}**

#### Relationships with other classification places

Equipment for handling freight in aircraft: [B64D 9/00](#) - [B64D 9/003](#)

## References

### Informative references

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

Cargo door type ramps	<a href="#">B64C 1/1415</a>
Equipment for handling freight in aircraft	<a href="#">B64D 9/00</a>

## B64C 1/24

### Steps mounted on, and retractable within, fuselages

## References

### Informative references

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

Readily removable	<a href="#">B64D 9/00</a>
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## B64C 1/30

### Parts of fuselage relatively movable to reduce overall dimensions of aircraft

## References

### Informative references

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

Fuselage frames enabling folding or collapsing to reduce overall dimensions	<a href="#">B64C 1/063</a>
Folding or collapsing wings	<a href="#">B64C 3/56</a>

## B64C 1/32

### Severable or jettisonable parts of fuselage facilitating emergency escape

## Definition statement

This place covers:

Also includes pyrotechnics for shattering canopies.

## References

### Informative references

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

Ejection seats	<a href="#">B64D 25/10</a>
Ejectable capsules	<a href="#">B64D 25/12</a>



**B64C 1/34****comprising inflatable structural components****References****Informative references**

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

Inflatable structural components for wings	<a href="#">B64C 3/30</a>
Varying camber of complete wings or parts thereof by inflatable elements	<a href="#">B64C 3/46</a>
Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>

**B64C 1/36****adapted to receive antennas or radomes****Definition statement**

This place covers:

Details of the mounting of the antenna or radome to the fuselage, e.g. hinged connections for maintenance purposes

**References****Informative references**

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

Antennas or radomes per se	<a href="#">H01Q</a>
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**B64C 1/38****Constructions adapted to reduce effects of aerodynamic or other external heating****Definition statement**

This place covers:

Cooling of the external fuselage skin.

**References****Informative references**

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

Insulation mats or blankets adjacent the fuselage skin	<a href="#">B64C 1/40</a>
Structures adapted to reduce effects of aerodynamic or other external heating on wings	<a href="#">B64C 3/36</a>
Cooling structural parts of aircraft with air from an air-treatment apparatus (e.g. environmental control system) in the aircraft	<a href="#">B64D 13/006</a>

## B64C 1/40

Sound or heat insulation {, e.g. using insulation blankets}

### References

#### Informative references

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

Cooling of the external fuselage skin	<a href="#">B64C 1/38</a>
Insulating elements for vehicles in general	<a href="#">B60R 13/08</a>

## B64C 1/403

{Arrangement of fasteners specially adapted therefor, e.g. of clips}

### References

#### Informative references

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

Clips for sound or heat insulation in vehicles in general	<a href="#">B60R 13/0206</a>
Fasteners in general	<a href="#">F16B</a>

## B64C 1/406

{in combination with supports for lines, e.g. for pipes or cables}

### References

#### Informative references

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

Arrangement of elements of electric or fluid circuits specially adapted for vehicles in general	<a href="#">B60R 16/00</a>
Supports for pipes, cables or protective tubing	<a href="#">F16L 3/00</a>
Installations of electric cables or lines in vehicles	<a href="#">H02G 3/00</a>

## B64C 3/00

Wings (ornithopter wings [B64C 33/02](#))

### Definition statement

This place covers:

- Wing shapes (planform, airfoil profile, frontal aspect).
- Wing structures (spars, ribs, stringers, skin panels).
- Wing adaptations for accommodating power plants.
- Integral fuel tanks in the wings.
- Passive cooling of wing structures.
- Adjustment of complete wings or parts thereof (variable sweep, incidence, camber or area; warping, folding for storage purposes).

- Wings with fixed fences or spoilers.

**References**

**Limiting references**

*This place does not cover:*

Ornithopter wings	<a href="#">B64C 33/02</a>
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**Informative references**

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

Stabilising surfaces	<a href="#">B64C 5/00</a>
Hang-glider wings (delta-shaped)	<a href="#">B64C 31/032</a>
Hang-glider wings (parafoil)	<a href="#">B64C 31/036</a>
Disc- or ring-shaped wings	<a href="#">B64C 39/06</a> - <a href="#">B64C 39/068</a>
Flying wings	<a href="#">B64C 39/10</a>
Working with plastics	<a href="#">B29C</a>

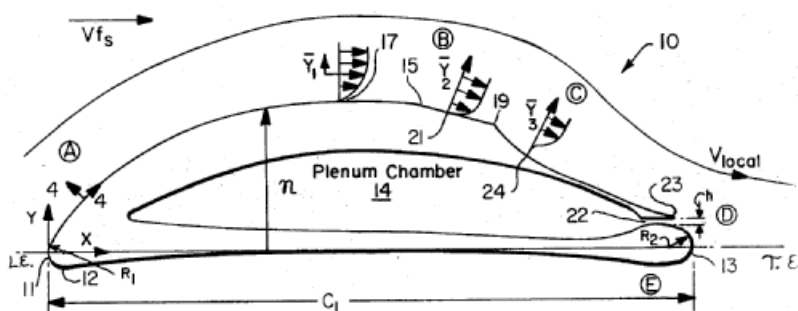
**B64C 3/141**

**{Circulation Control Airfoils}**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in this group:



**B64C 3/16****Frontal aspect****Definition statement**

*This place covers:*

Shape of wing(s) when viewed from the front, e.g. dihedral, anhedral, gull-wing.

**B64C 3/18****Spars; Ribs; Stringers****References****Informative references**

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

Frames; Stringers; Longerons; Fuselage sections	<a href="#">B64C 1/06</a>
Attaching wing unit to fuselage	<a href="#">B64C 1/26</a>

**B64C 3/182****{Stringers, longerons}****References****Informative references**

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

Stringers or longerons for fuselages	<a href="#">B64C 1/064</a>
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**B64C 3/185****{Spars}****Relationships with other classification places**

For fuselages: [B64C 1/065](#)

**B64C 3/20****Integral or sandwich constructions****References****Informative references**

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

Layered products or sandwich constructions in general	<a href="#">B32B</a>
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**B64C 3/26****Construction, shape, or attachment of separate skins, e.g. panels****Relationships with other classification places**For fuselages: [B64C 1/12](#)**B64C 3/30****comprising inflatable structural components****Relationships with other classification places**Inflatable structural components for fuselages: [B64C 1/34](#)**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

For variation of shape, e.g. camber, for aerodynamical purposes	<a href="#">B64C 3/46</a>
Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>

**B64C 3/32****specially adapted for mounting power plant****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Aircraft characterised by piston-type power plant within, or attached to, wings	<a href="#">B64D 27/06</a>
Aircraft characterised by gas turbine-type power plant within, or attached to, wings	<a href="#">B64D 27/12</a>
Aircraft characterised by turbofan or turbojet power plant within, or attached to, wings	<a href="#">B64D 27/18</a>
Arrangements for mounting power plants in aircraft	<a href="#">B64D 27/40</a>

**B64C 3/34****Tanks constructed integrally with wings, e.g. for fuel or water****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Fuel tanks	<a href="#">B64D 37/02</a>
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## B64C 3/36

### Structures adapted to reduce effects of aerodynamic or other external heating

#### Definition statement

*This place covers:*

Cooling of the external wing skin

#### References

##### Informative references

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

Constructions adapted to reduce effects of aerodynamic or other external heating of fuselage	<a href="#">B64C 1/38</a>
Cooling structural parts of aircraft with air from an air-treatment apparatus (e.g. environmental control system) in the aircraft	<a href="#">B64D 13/006</a>

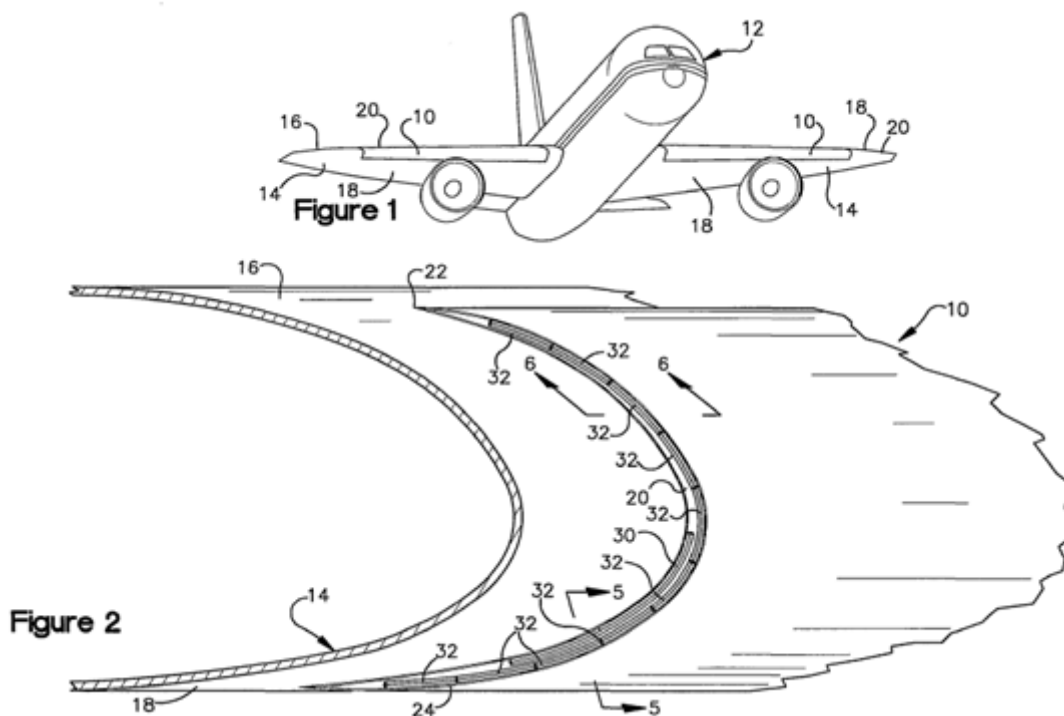
## B64C 3/46

### by inflatable elements

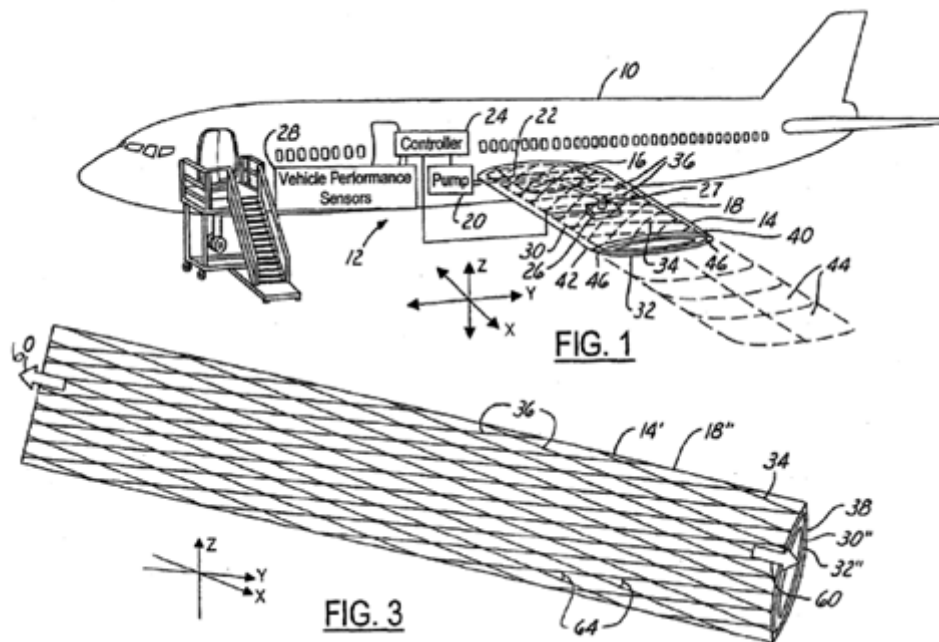
#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in this group (variation of camber by inflatable elements):



Illustrative example of subject matter classified in this group (wing skins are elastic; morphing, see also Glossary of Terms):



## References

### Informative references

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

Connection of valves to elastic bodies	<a href="#">B60C 29/00</a>
Inflatable elements for deicing only, e.g. inflatable leading edge boots	<a href="#">B64D 15/166</a>

## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Morphing	modification of wing shape by deformation, e.g. elastic skin
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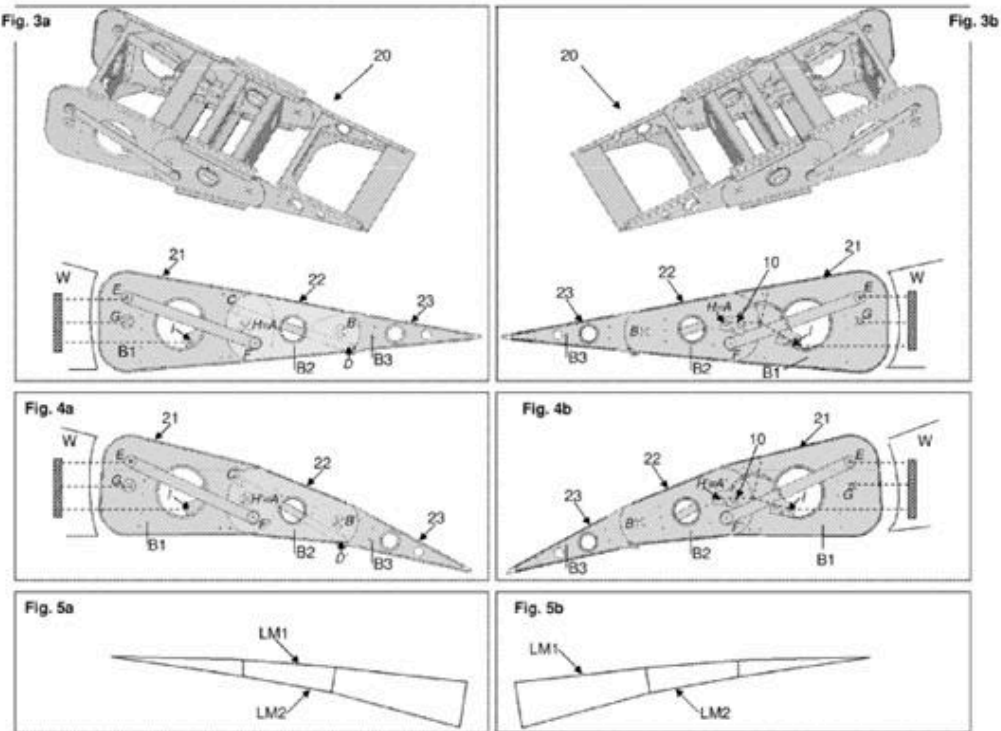
## B64C 3/48

by relatively-movable parts of wing structures

### Definition statement

*This place covers:*

Illustrative example of variation of camber by movable elements:





This subgroup also includes documents where additionally wing skins are elastic (morphing; see also Glossary of Terms):

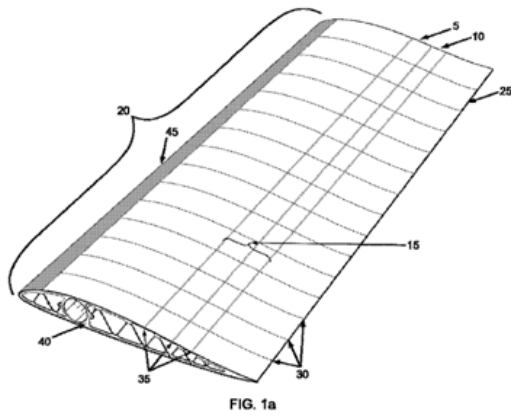


FIG. 1a

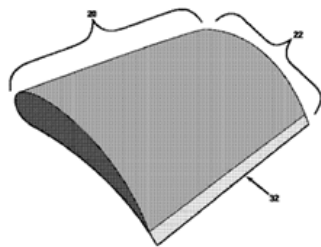


FIG. 1b

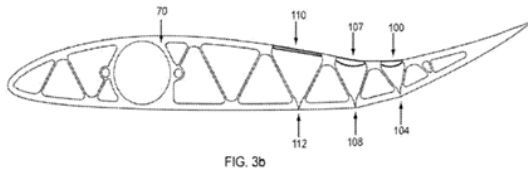


FIG. 3b

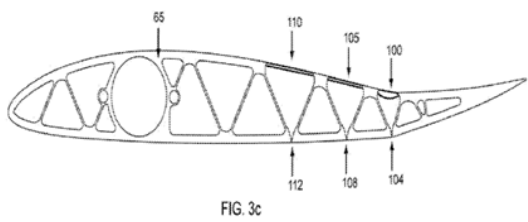


FIG. 3c

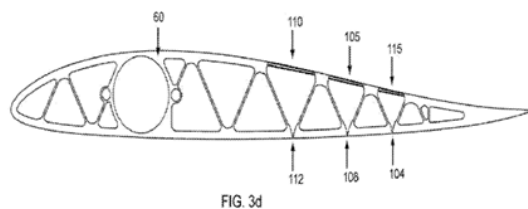


FIG. 3d

## References

### Informative references

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

Connection of valves to elastic bodies	<a href="#">B60C 29/00</a>
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Movable wing elements for deicing only	<a href="#">B64D 15/16</a> , <a href="#">B64D 15/163</a>
Inflatable elements for deicing only (e.g. inflatable leading edge boots)	<a href="#">B64D 15/166</a>

## Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Morphing	modification of wing shape by deformation, e.g. employing elastic skin
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## B64C 3/50

### by leading or trailing edge flaps

#### Definition statement

*This place covers:*

Integral leading or trailing edge parts of wings forming flaps by being movable by (elastic) deformation.

#### References

##### Informative references

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

Ailerons	<a href="#">B64C 9/00</a>
Bodily displaceable control surfaces	<a href="#">B64C 9/08</a>

## B64C 3/54

### Varying in area

#### References

##### Informative references

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

Flaps extendable to increase camber	<a href="#">B64C 3/44</a>
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## B64C 3/546

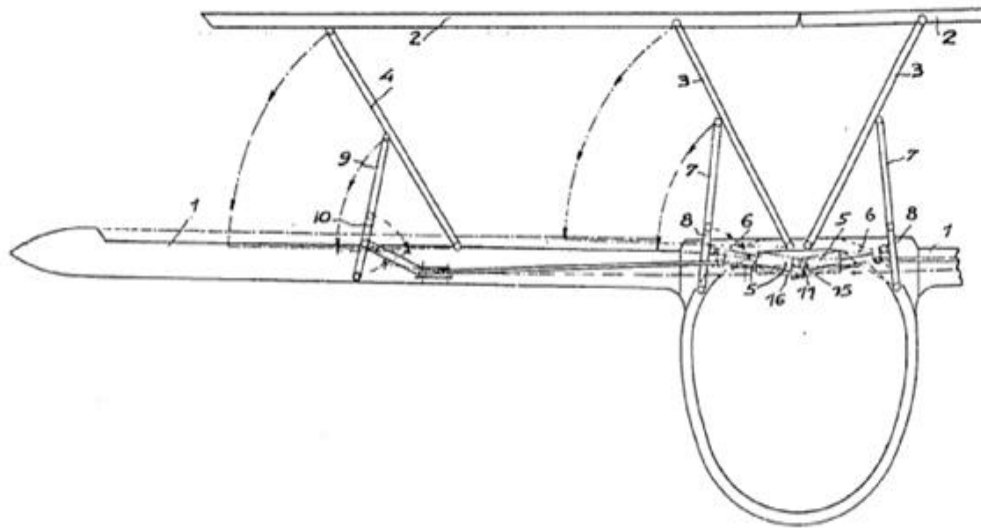
### {by foldable elements}

#### Definition statement

*This place covers:*

Folding wings or elements thereof to provide variable aerodynamic lift.

Illustrative example of subject matter classified in this group:



**References**

**Informative references**

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

Folding wings or elements for reducing dimensions for storage purposes	<a href="#">B64C 3/56</a>
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**B64C 3/56**

**Folding or collapsing to reduce overall dimensions of aircraft**

**Definition statement**

*This place covers:*

Folding or collapsible wings or elements thereof to reduce overall aircraft size for storage, as typically used by aircraft on aircraft carriers or by trailerable aircraft.

**References**

**Informative references**

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

Relatively movable fuselage parts for reducing overall size for storage	<a href="#">B64C 1/30</a>
Folding wings or elements thereof to provide variable, aerodynamic lift	<a href="#">B64C 3/546</a>

## B64C 3/58

provided with fences or spoilers (adjustable for control purposes [B64C 9/00](#))

### References

#### Limiting references

*This place does not cover:*

Adjustable for control purposes	<a href="#">B64C 9/00</a>
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#### Informative references

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

Generating vortices over aircraft surfaces not otherwise provided for	<a href="#">B64C 23/06</a>
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## B64C 5/00

### Stabilising surfaces

#### Definition statement

*This place covers:*

Substantially fixed stabilising structures such as tailplanes, noseplanes and fins. Adjustable stabilising structures only when adjustment is limited and not for primary control purposes, e.g. an adjustable tail plane.

### References

#### Informative references

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

Attaching stabilising surfaces to fuselage	<a href="#">B64C 1/26</a>
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## B64C 5/02

### Tailplanes

### References

#### Informative references

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

Fins	<a href="#">B64C 5/06</a>
Movable parts	<a href="#">B64C 9/00</a>

## B64C 5/04

### Noseplanes

#### Relationships with other classification places

Canard-type aircraft: [B64C 39/12](#)

**B64C 5/06**

Fins ([B64C 5/08](#) takes precedence)

**References****Limiting references**

*This place does not cover:*

Specially for wings	<a href="#">B64C 5/08</a>
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**B64C 5/08**

mounted on, or supported by, wings

**Definition statement**

*This place covers:*

Also some winglets

**References****Informative references**

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

Surfaces at the wing tip creating vortices	<a href="#">B64C 23/065</a>
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**B64C 5/10**

adjustable

**References****Informative references**

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

Adjustable to produce different aerodynamic forces for control purposes	<a href="#">B64C 9/00</a>
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**B64C 5/12**

for retraction against or within fuselage or nacelle

**References****Informative references**

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

Adjustable to produce different aerodynamic forces for control purposes	<a href="#">B64C 9/34</a>
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## B64C 5/14

### Varying angle of sweep

#### Relationships with other classification places

Variable wing sweep: [B64C 3/40](#)

## B64C 5/16

### about spanwise axes

#### Definition statement

*This place covers:*

For example horizontal stabilisers with limited movement about a spanwise axis for pitch trim.

## B64C 5/18

### in area

#### References

##### *Informative references*

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

Attaching stabilising surfaces to fuselages	<a href="#">B64C 1/26</a>
Varying wing area for variation in lift	<a href="#">B64C 3/54</a> - <a href="#">B64C 3/546</a>

## B64C 7/00

### Structures or fairings not otherwise provided for

#### Definition statement

*This place covers:*

- Any structure or fairing which is not provided for elsewhere in [B64](#);
- Sealing strips or fairings between fuselages and stabilising surfaces or wings;
- Some gap seals for control surfaces (see also [B64C 9/02](#));
- Helicopter rotor hub fairings (see also the Special Rules of Classification below)

#### Relationships with other classification places

Mounting control surfaces: [B64C 9/02](#)

#### Special rules of classification

Helicopter rotor hub fairings are concurrently attributed the symbols [B64C 7/00](#) and [B64C 27/04](#)

## B64C 7/02

### Nacelles

#### References

##### *Informative references*

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

Power plant nacelles	<a href="#">B64D 29/00</a>
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## B64C 9/00

Adjustable control surfaces or members, e.g. rudders (trimming stabilising surfaces [B64C 5/10](#))

#### Definition statement

*This place covers:*

Control surfaces such as rudders, ailerons, flaps, elevators, trim/servo tabs and air brakes, as well as their mounting and balancing.

#### References

##### *Limiting references*

*This place does not cover:*

Trimming stabilising surfaces	<a href="#">B64C 5/10</a>
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##### *Informative references*

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

Systems for actuating flying-control surfaces	<a href="#">B64C 13/00</a>
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## B64C 9/02

### Mounting or supporting thereof

#### Definition statement

*This place covers:*

Mechanical (hinged, sliding) connections between control surfaces (e.g. aileron) and supporting part (wings).

Gap covers and seals.

#### Relationships with other classification places

Structures and fairings not otherwise provided for: [B64C 7/00](#)

**B64C 9/04****with compound dependent movements****Definition statement***This place covers:*

For example flaperons

**B64C 9/08****bodily displaceable****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Varying camber of wings	<a href="#">B64C 3/44</a>
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**B64C 9/10****one surface adjusted by movement of another, e.g. servo tabs ([B64C 9/04](#) takes precedence; adjusting surfaces of different type or function [B64C 9/12](#))****References****Limiting references***This place does not cover:*

Adjustable control surfaces with compound dependent movements	<a href="#">B64C 9/04</a>
Adjusting surfaces of different type of function being simultaneously adjusted	<a href="#">B64C 9/12</a>

**B64C 9/14****forming slots****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Fixed leading or trailing edge slots	<a href="#">B64C 3/28</a>
Boundary-layer control	<a href="#">B64C 21/00</a>



## B64C 9/146

{at an other wing location than the rear or the front (wings provided with fixed fences or spoilers [B64C 3/58](#))}

### References

#### Limiting references

*This place does not cover:*

Wings provided with fixed fences or spoilers	<a href="#">B64C 3/58</a>
--	---------------------------

## B64C 9/16

at the rear of the wing

### Definition statement

*This place covers:*

Mainly actuating connections and linkages in the region of the flap and the supporting structure (e.g. wing), as well as further details such as covers. Aerodynamic (airflow) aspects are attributed [B64C 9/18](#) (single flaps) or [B64C 9/20](#) (multiple flaps).

This and the associated subgroups also covers trailing edge flaps where no slot is formed (e.g. conventional split flaps)

## B64C 9/18

by single flaps

### Definition statement

*This place covers:*

- Aerodynamic (airflow) aspects.
- Single flap in a given chordwise direction.

## B64C 9/20

by multiple flaps

### Definition statement

*This place covers:*

- Aerodynamic (airflow) aspects.
- Multiple flaps in a given chordwise direction.

## B64C 9/22

at the front of the wing

### Definition statement

*This place covers:*

Mainly actuating connections and linkages in the region of the flap and the supporting structure (e.g. wing), as well as further details such as covers. Aerodynamic (airflow) aspects are attributed [B64C 9/24](#) (single flaps) or [B64C 9/26](#) (multiple flaps).

This and the associated subgroups also covers leading edge flaps where no slot is formed (e.g. conventional Krüger flaps).

## **B64C 9/24**

### **by single flap**

#### **Definition statement**

*This place covers:*

- Aerodynamic (airflow) aspects.
- Single flap in a given chordwise direction.

## **B64C 9/26**

### **by multiple flaps**

#### **Definition statement**

*This place covers:*

- Aerodynamic (airflow) aspects.
- Multiple flaps in a given chordwise direction.

## **B64C 9/32**

### **Air braking surfaces**

#### **References**

##### ***Informative references***

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

Stabilising surfaces for retraction against or within fuselage or nacelle	<a href="#">B64C 5/12</a>
Braking by parachutes	<a href="#">B64D 17/80</a>

## **B64C 9/34**

### **collapsing or retracting against or within other surfaces or other members**

#### **Relationships with other classification places**

Stabilising surfaces for retraction against or within fuselage or nacelle: [B64C 5/12](#)

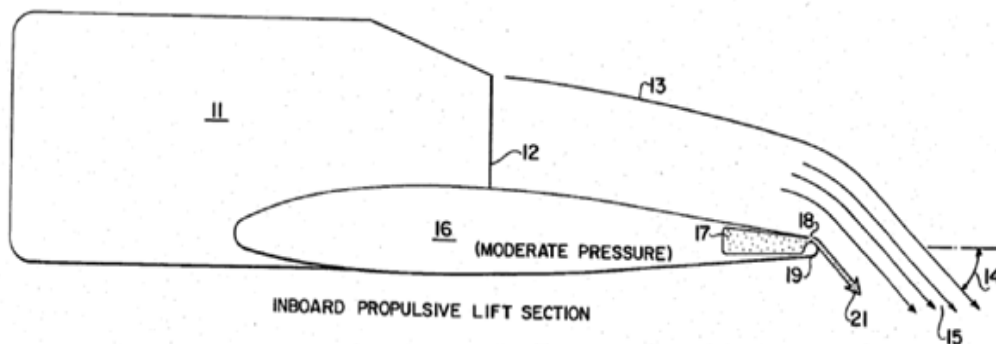
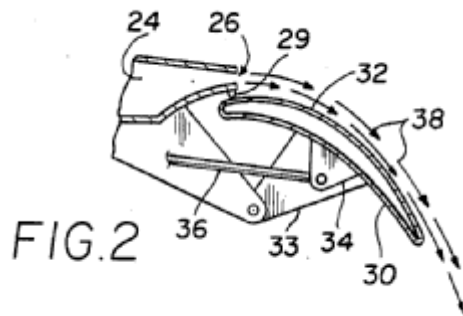
## B64C 9/38

### Jet flaps

#### Definition statement

*This place covers:*

Illustrative examples of jet flaps:



## B64C 11/00

### Propellers, e.g. of ducted type; Features common to propellers and rotors for rotorcraft

#### Definition statement

*This place covers:*

- Propeller hubs, blades and pitch-changing mechanisms.
- Propeller vibration absorbing or balancing means. Arrangements of multiple propellers (e.g. coaxial propellers).
- Active or passive propeller measures for noise reduction (only such disclosures are attributed the symbol [B64C 11/00](#)).

## References

### Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Rotors specially adapted for rotorcraft	<a href="#">B64C 27/32</a>
Helicopter rotor blades with tips for noise reduction	<a href="#">B64C 27/463</a>

### Informative references

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

In marine propulsion	<a href="#">B63H</a>
In gas turbines (except for some documents relating to propellers of the "unducted fan" or "open rotor" type)	<a href="#">F02C</a> , <a href="#">F01D</a>
In wind motors/generators	<a href="#">F03D</a>
In pumps	<a href="#">F04D</a>
In (domestic) ventilation fans	<a href="#">F04D</a>

## Special rules of classification

Propellers and associated components are only attributed [B64C 11/00](#) or associated subgroup symbols when they are disclosed as being for use with aircraft, generally for producing longitudinal thrust.

## B64C 11/008

{characterised by vibration absorbing or balancing means}

## References

### Informative references

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

Vibration damping devices for rotorcraft	<a href="#">B64C 27/001</a>
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## B64C 11/22

### Solid blades

#### Definition statement

*This place covers:*

Mainly wooden blades.

## B64C 11/24

### Hollow blades

#### Definition statement

*This place covers:*

Mainly metal blades.

## B64C 11/26

### Fabricated blades

#### Definition statement

*This place covers:*

Mainly composite blades.

## B64C 11/46

### Arrangements of, or constructional features peculiar to, multiple propellers {(B64C 11/306 takes precedence)}

#### Definition statement

*This place covers:*

This and the associated subgroups [B64C 11/48](#) and [B64C 11/50](#) can also cover multiple propellers of the "unducted fan" or "open rotor" type.

#### References

##### Limiting references

*This place does not cover:*

Takes precedence	<a href="#">B64C 11/306</a>
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## B64C 13/00

### Control systems or transmitting systems for actuating flying-control surfaces, lift-increasing flaps, air brakes, or spoilers

#### Definition statement

*This place covers:*

- Control sticks and yokes, stick shakers, tactile or force-feedback.
- Mechanical, fluid or electric transmission means to the control surface(s), including use of autopilots, fly-by-wire and fly-by-light.

#### References

##### Informative references

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

Asymmetric flap detection	<a href="#">B64D 45/0005</a>
---------------------------	------------------------------

## B64C 13/04

### actuated personally

#### Definition statement

*This place covers:*

Control sticks and yokes as well as associated components and details in the region thereof.

## Relationships with other classification places

Initiating means in rotorcraft: [B64C 27/56](#)

## References

### Informative references

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

Controlling members in general (e.g. joysticks, handles)	<a href="#">G05G</a>
--	----------------------

## B64C 13/06

adjustable to suit individual persons

### Definition statement

*This place covers:*

For example longitudinal adjustment of rudder pedal assemblies.

## B64C 13/10

comprising warning devices

### Definition statement

*This place covers:*

- Vibrating control sticks or yokes ("stick shakers").
- Tactile cueing

## Relationships with other classification places

Artificial feel (e.g. "force feedback") in the transmitting system: mechanical [B64C 13/345](#), fluid [B64C 13/46](#), electric [B64C 13/507](#)

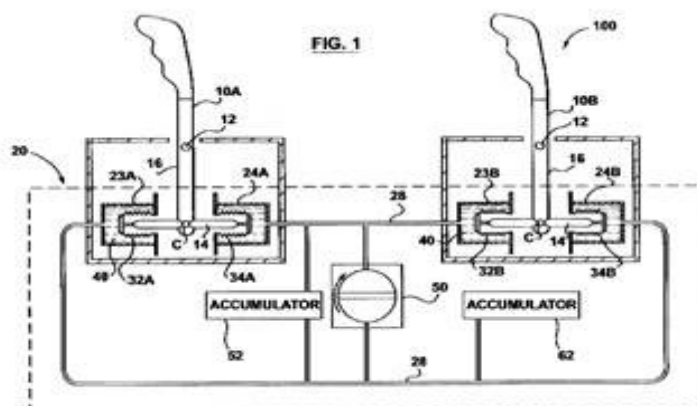
## B64C 13/12

Dual control apparatus

### Definition statement

*This place covers:*

Devices characterized by having two inputs actuated to effect control.



## B64C 13/14

### lockable

#### Definition statement

*This place covers:*

For example, locking a yoke against the dashboard to lock the control surfaces against wind gusts.

#### References

##### *Informative references*

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

Locking in position to suit individual persons	<a href="#">B64C 13/06</a>
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## B64C 13/16

### actuated automatically, e.g. responsive to gust detectors

#### Definition statement

*This place covers:*

Also covers for example automatic rudder/aileron deflection to counter asymmetric thrust.

#### Relationships with other classification places

Automatic or condition responsive initiating members in rotorcraft: [B64C 27/57](#).

Fly-by-wire or fly-by-light: [B64C 13/503](#).

Automatic or condition responsive initiating members in aircraft power plant control: [B64D 31/06](#) - [B64D 31/12](#).

#### References

##### *Informative references*

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

Control of position, course, altitude or attitude of land, water, air or space vehicles	<a href="#">G05D 1/00</a>
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## B64C 13/18

### using automatic pilot

#### Definition statement

*This place covers:*

Autopilots, stability augmentation systems, yaw dampers, mostly in the context of the whole or a major part of the transmitting system.

## References

### Informative references

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

Lighter-than-air aircraft	<a href="#">B64B</a>
Automatic pilots per se	<a href="#">G05D 1/00</a>

## B64C 13/20

### using radiated signals

#### Definition statement

*This place covers:*

For example radio control

## References

### Informative references

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

Remote controlled aircraft	<a href="#">B64C 39/024</a>
Remote controlled toy aircraft	<a href="#">A63H 27/00</a>
Air traffic control	<a href="#">G08G</a>

## B64C 13/22

### readily revertible to personal control

#### Definition statement

*This place covers:*

For example unmanned aerial vehicles, which can also be flown by a pilot (e.g. aircraft converted to "drones" or aerial targets).

## B64C 13/24

### Transmitting means

#### Definition statement

*This place covers:*

Transmitting means between the initiating means (e.g. control stick) and the control surface (e.g. aileron).

Documents relating to power amplifying actuators (fluid, electric, mechanic) in aircraft control surfaces transmitting means are attributed this and the symbols of the associated subclasses when their use, mounting and/or function in the context of the transmitting means as a whole is described.



**B64C 13/34****using toothed gearing****Definition statement***This place covers:*

Only intermeshing toothed gearing.

**B64C 13/40****using fluid pressure****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Hydraulic circuits	<a href="#">F15B</a>
--------------------	----------------------

**B64C 13/44****overriding of personal controls; with automatic return to inoperative position****Relationships with other classification places**Automatically activated personal initiating means: [B64C 13/16](#) - [B64C 13/22](#).Automatic or condition responsive personal initiating members in rotorcraft: [B64C 27/57](#).Automatic or condition responsive initiating members in aircraft power plant control: [B64D 31/06](#) - [B64D 31/12](#).**B64C 13/46****with artificial feel****Relationships with other classification places**Personally activated initiating means with warning devices (e.g. "stick shakers", tactile cueing): [B64C 13/10](#).**B64C 13/503****{Fly-by-Wire}****Definition statement***This place covers:*

Also covers fly-by-light.

## References

### Informative references

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

Control of position, course, altitude or attitude of land, water, air or space vehicles	<a href="#">G05D 1/00</a>
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## B64C 15/00

### Attitude, flight direction, or altitude control by jet reaction

#### Definition statement

*This place covers:*

Control of aircraft by jet(s) generated by any means (including propellers).

## References

### Informative references

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

Altitude control of rotorcraft	<a href="#">B64C 27/00</a>
Vertical take-off and landing [VTOL] aircraft	<a href="#">B64C 29/00</a>
In-flight adjustment of the base configuration of UAVs	<a href="#">B64U 40/20</a>
Details of jet-engine plants, e.g. of nozzles or jet pipes	<a href="#">F02K</a>

## B64C 15/02

### the jets being propulsion jets

#### Definition statement

*This place covers:*

Thrust vectoring.

#### Relationships with other classification places

See also [B64D 33/04](#) for arrangements of exhaust outlets or jet pipes.

## B64C 15/12

### the power plant being tiltable

#### Definition statement

*This place covers:*

Thrust vectoring obtained by rotating the power unit as a whole.

## B64C 15/14

the jets being other than main propulsion jets (jet flaps [B64C 9/38](#))

### Definition statement

*This place covers:*

Aircraft control obtained by using dedicated jets.

### References

#### Limiting references

*This place does not cover:*

Jet flaps	<a href="#">B64C 9/38</a>
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#### Informative references

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

Boundary layer control	<a href="#">B64C 21/04</a>
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## B64C 17/00

Aircraft stabilisation not otherwise provided for

### Definition statement

*This place covers:*

This group contains documents concerning aircraft stabilisation which are not classified in e.g. [B64C 5/00](#).

## B64C 17/02

by gravity or inertia-actuated apparatus

### Definition statement

*This place covers:*

Stability control by e.g. shifting the CoG

## B64C 17/04

by pendular bodies

### Definition statement

*This place covers:*

Pendulum stability is achieved when the centre of lift is above the CoG of the aircraft, or by using a dedicated pendulum.

**B64C 17/06****by gyroscopic apparatus****Definition statement**

*This place covers:*

A gyro is used to directly stabilize the aircraft.

**References****Informative references**

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

Initiating means using automatic pilots	<a href="#">B64C 13/18</a>
Automatic pilots	<a href="#">G05D 1/00</a>

**B64C 17/08****by ballast supply or discharge****References****Informative references**

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

Ballasting arrangements in lighter-than-air aircraft	<a href="#">B64B 1/70</a>
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**B64C 17/10****Transferring fuel to adjust trim****Definition statement**

*This place covers:*

Displacement of the CoG, aimed at reaching a desired trim condition, is achieved by fuel transfer between the internal tanks of the aircraft.

**B64C 19/00****Aircraft control not otherwise provided for****Definition statement**

*This place covers:*

Control of aircraft by using e.g. gyroscopic effects, vortex generators, moving aircraft parts and/or surfaces not provided for in [B64C 9/00](#) or, in general, systems not provided for in [B64C 13/00](#) or [B64C 15/00](#).

## B64C 19/02

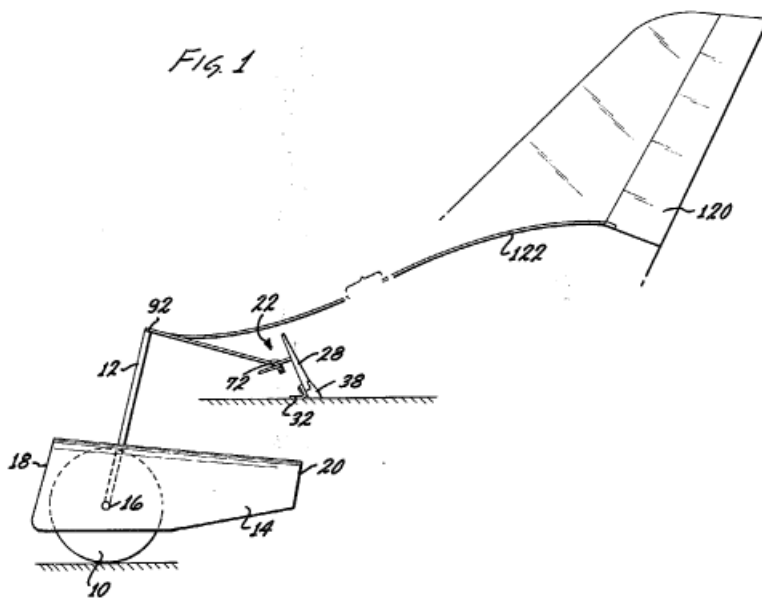
### Conjoint controls

#### Definition statement

*This place covers:*

Manual or automatic controller(s) on board one or more aircraft, embodying manual inputs or automatic control logic for aircraft sub-units of different type or different function, send(s) control signals to actuators of two or more aircraft sub-units, so that the sub-units act together to solve a particular problem or in response to a particular flying condition, e.g. in order to improve stability, comfort or safety, by managing the global dynamics of the one or more aircraft.

Illustrative examples of subject matter classified in this group:



#### Relationships with other classification places

This area relates to aircraft control, function and dynamics of aircraft flying.

Classification concerning control of position, course or altitude will be placed in [G05D 1/00](#).

#### References

##### Informative references

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

Flying units formed by separate aircraft	<a href="#">B64C 37/02</a>
Aircraft towing aircraft	<a href="#">B64D 3/00</a>
Aircraft transported by aircraft	<a href="#">B64D 5/00</a>

#### Special rules of classification

Dual control apparatuses should be placed in [B64C 13/12](#).

## B64C 21/00

### Influencing air flow over aircraft surfaces by affecting boundary layer flow

#### Definition statement

*This place covers:*

Any device/method operating within the airfoil boundary layer to influence the air flow around the airfoil, especially in order to control boundary layer separation.

#### References

##### Informative references

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

Hydrodynamic or hydrostatic features	<a href="#">B63B 1/34</a>
Boundary layer control in general	<a href="#">F15D</a>

## B64C 21/01

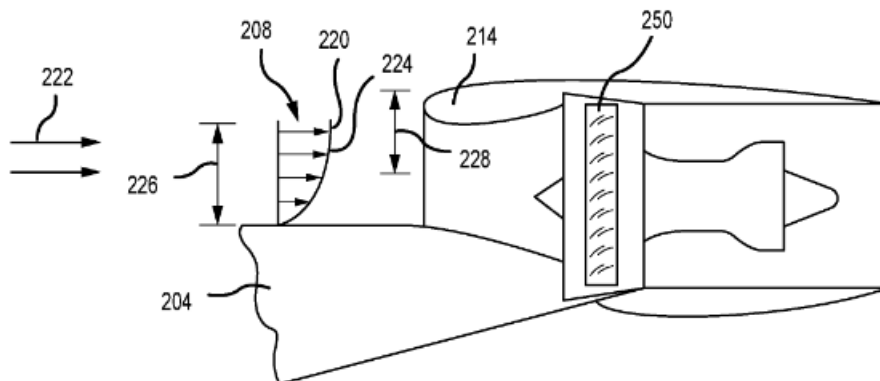
### Boundary layer ingestion [BLI] propulsion

#### Definition statement

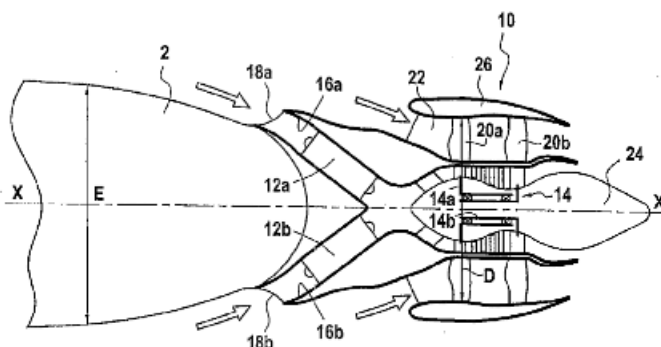
*This place covers:*

Propulsion arrangements which ingest some or all of the aircraft surface boundary layer.

Illustrative example of the subject matter classified in this group:



Illustrative example of the subject matter classified in this group:



**B64C 21/02**

by use of slot, ducts, porous areas or the like

**Definition statement**

*This place covers:*

Cavities, slots, holes along a structural surface whereby the net flow is null.

**B64C 21/025**

{for simultaneous blowing and sucking}

**Definition statement**

*This place covers:*

Fluid is blown and sucked.

**References****Informative references**

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

Adjustable	<a href="#">B64C 21/08</a>
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**B64C 21/04**

for blowing

**Definition statement**

*This place covers:*

Fluid is only blown.

**References****Informative references**

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

Adjustable	<a href="#">B64C 21/08</a>
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**B64C 21/06**

for sucking (BLI propulsion [B64C 21/01](#))

**Definition statement**

*This place covers:*

Fluid is only sucked.

**References****Limiting references**

*This place does not cover:*

BLI propulsion	<a href="#">B64C 21/01</a>
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**Informative references**

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

Adjustable	<a href="#">B64C 21/08</a>
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**B64C 21/08****adjustable****Definition statement**

*This place covers:*

Fluid flow is explicitly adjustable by, e.g. valves, variable aperture or slot area, variable pump action or fluid pressure.

**Special rules of classification**

Always classify, in the case of blown or sucked fluid, also in [B64C 21/025](#) or [B64C 21/04](#) or [B64C 21/06](#).

**B64C 21/10****using other surface properties, e.g. roughness****Special rules of classification**

The properties referred to are e.g. roughness or riblets.

**B64C 23/00****Influencing air flow over aircraft surfaces, not otherwise provided for****Definition statement**

*This place covers:*

Air-flow over aircraft surfaces influenced e.g. by magnetic, electric or piezoelectric panels, by static charges, by ultrasound, by special shape, by rotating bodies.

**References****References out of a residual place**

*Examples of places in relation to which this place is residual:*

Attitude control by jet reaction	<a href="#">B64C 15/00</a>
Influencing boundary layer	<a href="#">B64C 21/00</a>

**B64C 23/005**

{by other means not covered by groups [B64C 23/02](#) - [B64C 23/08](#), e.g. by electric charges, magnetic panels, piezoelectric elements, static charges or ultrasounds}

**Relationships with other classification places**

Also [B64C 21/00](#) if boundary layer explicitly involved.



**B64C 23/02**

by means of rotating members of cylindrical or similar form

**Relationships with other classification places**

Circulation control airfoils: [B64C 3/141](#)

Using Magnus effect: [B64C 23/08](#)

**B64C 23/04**

by generating shock waves

**Definition statement**

*This place covers:*

Shock wave modification devices and methods. Reduction of shock drag as main searched technical effect.

**Relationships with other classification places**

Supersonic type aircraft	<a href="#">B64C 30/00</a>
Specific airfoil shape	<a href="#">B64C 3/14</a>

**B64C 23/06**

by generating vortices

**Relationships with other classification places**

Fins mounted on wings	<a href="#">B64C 5/08</a>
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**B64C 23/065**

{at the wing tips}

**Definition statement**

*This place covers:*

Devices of any type (winglets, fins, turbines, splines) arranged at the wing tip.

**Relationships with other classification places**

Helicopter rotor blades tips: [B64C 27/463](#)

Fins on wings: [B64C 5/08](#)

## B64C 23/069

{using one or more wing tip airfoil devices, e.g. winglets, splines, wing tip fences or raked wingtips}

### Definition statement

*This place covers:*

A wing tip airfoil device is any separately identifiable airfoil member at the tip of the wing which creates or contributes in affecting vortices.

## B64C 23/08

using Magnus effect

### Definition statement

*This place covers:*

Devices having a cylindrical or spherical form which explicitly generate a force by using the Magnus effect.

### Relationships with other classification places

Circulation control airfoils: [B64C 3/141](#)

## B64C 25/00

Lighting gear (air-cushion alighting gear [B60V 3/08](#))

### Definition statement

*This place covers:*

- Any structure that supports/arrest the aircraft on a surface.
- Wheels supported by shock absorbers, skis, floats, pontoons or combinations thereof.
- Braking systems specific for aircraft.
- Arrester hooks. Control/actuating systems thereof.

### References

#### Limiting references

*This place does not cover:*

Air-cushion alighting gear	<a href="#">B60V 3/08</a>
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## B64C 25/04

Arrangement or disposition on aircraft

### Definition statement

*This place covers:*

Arrangement or disposition on aircraft with respect to the aircraft structure. Inter-relationship thereof.

## **B64C 25/16**

### **Fairings movable in conjunction with undercarriage elements**

#### **Definition statement**

*This place covers:*

Systems for opening and closing undercarriage door bays. Fairings in general whose movement is performed in conjunction with the landing gear movement.

## **B64C 25/18**

### **Operating mechanisms**

#### **Definition statement**

*This place covers:*

General methods and systems for operating unspecified aircraft landing gears.

## **B64C 25/20**

### **mechanical**

#### **Definition statement**

*This place covers:*

Operating mechanisms comprising levers, pulleys, cables, gear wheels and/or characterised essentially by the kinematic aspects of the retracting/folding displacement.

#### **Relationships with other classification places**

Locking mechanisms: [B64C 25/26](#)

## **B64C 25/22**

### **fluid**

#### **Definition statement**

*This place covers:*

Operating mechanisms characterised by the control circuits/operating actuators being hydraulic or pneumatic.

## **B64C 25/24**

### **electric**

#### **Definition statement**

*This place covers:*

Operating mechanisms characterised by using electrical or electromagnetic actuators.

**B64C 25/26****Control or locking systems therefor****Definition statement**

*This place covers:*

Uplock assemblies for retaining and releasing landing gear systems, bracing locking devices, undercarriage locking and unlocking systems in general.

**Relationships with other classification places**

Operating systems, mechanical aspects: [B64C 25/20](#)

**B64C 25/28****with indicating or warning devices****Definition statement**

*This place covers:*

Ground lock detection devices, landing gear warning systems, landing gear verification systems.

**Relationships with other classification places**

Devices specially adapted to indicate the position of a movable element of the aircraft, e.g. landing gear	<a href="#">B64D 45/0005</a>
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**B64C 25/30****emergency actuated****Definition statement**

*This place covers:*

Emergency release/actuation actuators and relevant control.

**Relationships with other classification places**

Devices specially adapted to indicate the position of a movable element of the aircraft, e.g. landing gear	<a href="#">B64D 45/0005</a>
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**B64C 25/32****characterised by elements which contact the ground or similar surface (arrester hooks [B64C 25/68](#))****References****Limiting references**

*This place does not cover:*

Arrester hooks:	<a href="#">B64C 25/68</a>
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**B64C 25/36****Arrangements or adaptations of wheels, tyres or axles in general****References****Informative references**

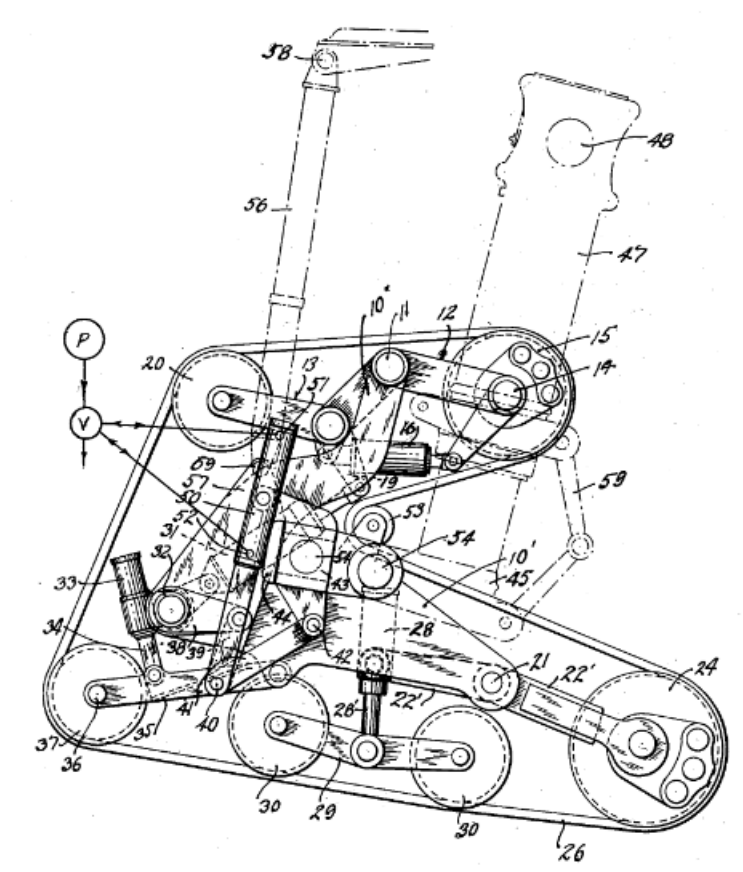
Attention is drawn to the following places, which may be of interest for search:

Construction of wheels or axles in general	<a href="#">B60B</a>
Construction of tyres in general	<a href="#">B60C</a>

**B64C 25/38****endless-track type****Definition statement**

This place covers:

Illustrative example of endless-track type ground-engaging element:



**B64C 25/40**

the elements being rotated before touch-down

**Definition statement**

*This place covers:*

Pre-landing acceleration devices for aircraft wheels, generally passive.

**B64C 25/405**

{Powered wheels, e.g. for taxiing}

**Definition statement**

*This place covers:*

Motorised wheels, any type of motor or installation thereof.

**B64C 25/42**

Arrangement or adaptation of brakes

**References****Informative references**

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

Vehicle brake control systems or parts thereof	<a href="#">B60T</a>
The ground braking force being regulated, at least in part, by a speed condition, e.g. acceleration or deceleration of the ground engaging alighting gear	<a href="#">B60T 8/32</a>

**B64C 25/423**

{Braking devices acting by reaction of gaseous medium}

**References****Informative references**

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

Using rockets	<a href="#">B64D 27/023</a>
Thrust reversers	<a href="#">B64D 33/04</a>

**Special rules of classification**

Originally meant for covering, e.g. thrust reversers, it is no longer used in this respect.

Thrust reversers shall not be classified in this group.

**B64C 25/426****{Braking devices providing an automatic sequence of braking}****Definition statement**

*This place covers:*

Braking methods/systems wherein the braking sequence is controlled by an electronic control unit and performed in accordance with predetermined steps, including controlling the brakes independently, to achieve a predetermined target, e.g. to achieve a predetermined deceleration rate or to optimize the braking force.

**B64C 25/44****Actuating mechanisms****Definition statement**

*This place covers:*

Regulators, disks, valves.

**References****Informative references**

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

Arrangements of brakes specially adapted for aircraft	<a href="#">B60T 8/325</a>
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**B64C 25/46****Brake regulators for preventing skidding or aircraft somersaulting****References****Informative references**

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

Anti-skidding regulators; electric or electronic controllers therefor	<a href="#">B60T 8/1703</a>
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**B64C 25/50****Steerable undercarriages; Shimmy-damping****Definition statement**

*This place covers:*

Undercarriages which can be steered, relevant control systems and actuators, steering angle warning systems.

**References****Informative references**

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

Steering devices for land vehicles	<a href="#">B62D</a>
------------------------------------	----------------------

Ground or aircraft-carrier-deck installations for towing aircraft

[B64F 1/223](#)

## **B64C 25/505**

**{Shimmy damping}**

### **Definition statement**

*This place covers:*

Wheel shimmy is a condition in which the landing gear wheel or wheels oscillate from side to side along a straight line parallel to the direction of travel of the aircraft. Documents concerning this problem are classified here.

## **B64C 25/52**

**Skis or runners**

### **Definition statement**

*This place covers:*

Skis, skids, runners, various ground engaging structures, especially suitable for helicopters.

### **Relationships with other classification places**

Safety devices for helicopters: [B64C 27/006](#)

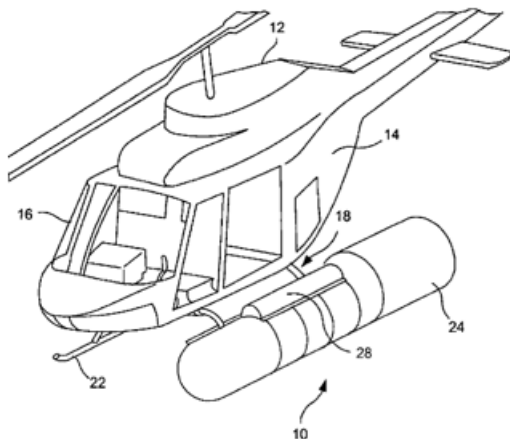
## **B64C 25/56**

**inflatable**

### **Definition statement**

*This place covers:*

Illustrative example of subject matter classified in this group:





## References

### Informative references

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

Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>
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## B64C 25/58

Arrangements or adaptations of shock-absorbers or springs (shimmy-dampers [B64C 25/50](#))

## References

### Limiting references

This place does not cover:

Shimmy-dampers	<a href="#">B64C 25/50</a>
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### Informative references

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

Vehicle suspension arrangements in general	<a href="#">B60G</a>
Shock-absorbers per se	<a href="#">F16F</a>

## B64C 25/60

### Oleo legs

### Definition statement

This place covers:

Any shock absorber comprising hydraulic or pneumatic cylinders.

## B64C 25/66

Convertible alighting gear; Combinations of different kinds of ground or like engaging elements

### Definition statement

This place covers:

The ground engaging elements can be converted from e.g. wheeled to floats or skis and vice-versa depending on the specific landing surface.

## B64C 25/68

### Arrester hooks

### Definition statement

This place covers:

Capturing or retrieving systems on aircraft.

## References

### Informative references

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

Ground or aircraft carrier deck installations for arresting aircraft	<a href="#">B64F 1/02</a>
Ground or aircraft-carrier-deck installations for launching aircraft	<a href="#">B64F 1/04</a>

## B64C 27/00

### Rotorcraft; Rotors peculiar thereto

#### Definition statement

This place covers:

- Vibration damping, safety devices and rotor tracking/balancing devices for rotorcraft rotors.
- Gyroplanes and autogyros, and rotors therefor.
- Helicopters, flying platforms and compound rotorcraft/helicopters.
- Rotors (including tail rotors), hubs, blades and rotor blade adjustment control (including flying controls, such as collective and pitch levers).

## References

### Informative references

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

Alighting gear	<a href="#">B64C 25/00</a>
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## B64C 27/001

### {Vibration damping devices}

#### Definition statement

This place covers:

Vibration or noise damping by means of isolators on the rotor head, suspended masses, actuators acting on the complete rotor assembly or active noise cancellation.

## References

### Informative references

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

Rotor blade tips	<a href="#">B64C 27/463</a>
Blade adjustment mechanism including flaps mounted on blades	<a href="#">B64C 27/615</a>
Means acting on blades for blade adjustment	<a href="#">B64C 27/72</a>

## B64C 27/006

{Safety devices}

### Definition statement

*This place covers:*

For example wire cutters or detectors, helicopter-specific use of airbags, distance sensors for tail booms, rotor blade crack detection, tail rotor guards, emergency tail rotor drives or emergency anti-torque means.

### Relationships with other classification places

Aircraft emergency devices: [B64D 25/00](#)

## B64C 27/008

{Rotors tracking or balancing devices}

### Definition statement

*This place covers:*

For example rotor blade tip weights or rotor blade tracking apparatus and methods.

## B64C 27/021

{Rotor or rotor head construction (for helicopters [B64C 27/32](#))}

### References

#### Limiting references

*This place does not cover:*

For helicopters	<a href="#">B64C 27/32</a>
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## B64C 27/04

Helicopters

### Special rules of classification

The following helicopter components are not attributed any of the symbols in [B64C 27/00](#) but only the symbol [B64C 27/04](#) and one of the following associated, applicable symbols:

Fuselage structures and windows: [B64C 1/00](#) - [B64C 1/40](#)

Rotor hub fairings: [B64C 7/00](#)

Armament: [B64D 7/00](#) - [B64D 7/08](#)

Underslung loads: [B64D 1/22](#)

Mounting cameras: [B64D 47/08](#)

## B64C 27/14

### Direct drive between power plant and rotor hub

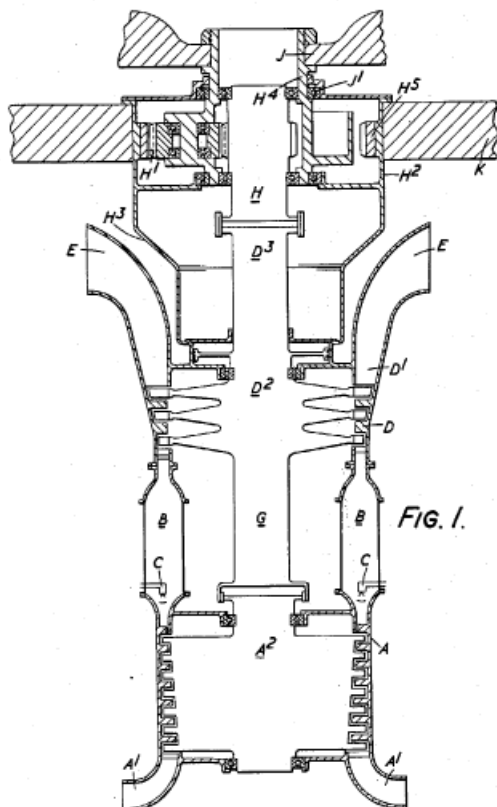
#### Definition statement

*This place covers:*

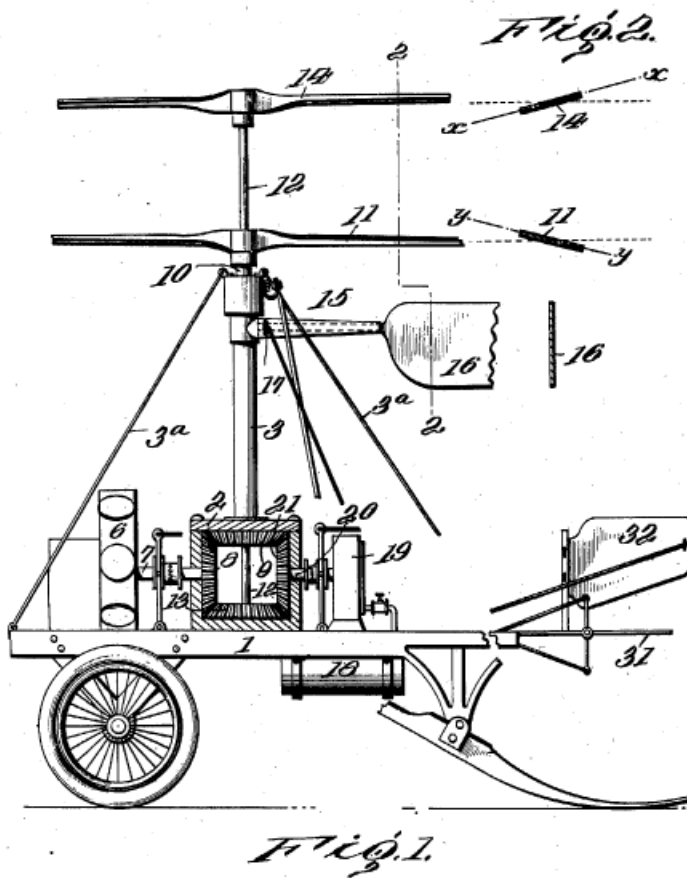
Drives which transfer motor output to the rotors at a generally 1:1 ratio.

Illustrative examples of subject matter classified in this group:

1.



2.



**References**

**Informative references**

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

Power transmission to rotor by electric power plant integral with rotor	<a href="#">B64D 35/026</a>
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**B64C 27/20**

Rotorcraft characterised by having shrouded rotors, e.g. flying platforms

**References**

**Informative references**

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

Shrouded propellers	<a href="#">B64C 11/001</a>
With wings	<a href="#">B64C 29/0025</a>
Unmanned aerial vehicles	<a href="#">B64U</a>

## B64C 27/28

**with forward-propulsion propellers pivotable to act as lifting rotors**

### Definition statement

*This place covers:*

Mostly tiltrotor aircraft requiring an anti-torque tail rotor.

### References

#### Informative references

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

Vertical take-off and landing [VTOL] aircraft, e.g. tiltrotors	<a href="#">B64C 29/00</a>
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## B64C 27/32

### Rotors

### Definition statement

*This place covers:*

Rotor hubs, special or unconventional rotors.

### References

#### Informative references

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

Features common to rotors and propellers	<a href="#">B64C 11/00</a>
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## B64C 27/33

**having flexing arms**

### Definition statement

*This place covers:*

Flexbeams for rigid rotors.

### Relationships with other classification places

Root attachment to rotor head: [B64C 27/48](#)

## B64C 27/35

**having elastomeric joints**

### Definition statement

*This place covers:*

Elastomeric joints for articulated rotors

**References****Informative references**

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

Springs	<a href="#">F16F</a>
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**B64C 27/37****having articulated joints****References****Informative references**

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

Having flexing arms	<a href="#">B64C 27/33</a>
Having elastomeric joints	<a href="#">B64C 27/35</a>

**B64C 27/467****Aerodynamic features****References****Informative references**

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

Rotor blade tips	<a href="#">B64C 27/463</a>
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**B64C 27/473****Constructional features****References****Informative references**

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

Constructional features of propeller blades	<a href="#">B64C 11/20</a>
Rotor blade tips	<a href="#">B64C 27/463</a>
Rotors for wind motors	<a href="#">F03D</a>

**B64C 27/48****Root attachment to rotor head****Relationships with other classification places**

Root attachment of propeller blades: [B64C 11/04](#) - [B64C 11/12](#)

## B64C 27/50

**Blades foldable to facilitate stowage of aircraft**

### Relationships with other classification places

Foldable propeller blades: [B64C 11/28](#)

For autogyros: [B64C 27/022](#)

## B64C 27/51

**Damping of blade movements**

### Relationships with other classification places

Transmitting means for controlling lead-lag movement of rotor blades: [B64C 27/635](#)

## B64C 27/52

**Tilting of rotor bodily relative to fuselage (of see-saw type construction [B64C 27/43](#))**

### References

#### Limiting references

*This place does not cover:*

See-saw type construction	<a href="#">B64C 27/43</a>
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#### Informative references

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

With forward-propulsion propellers pivotable to act as lifting rotors	<a href="#">B64C 27/28</a>
Mechanisms for controlling blade adjustment or movement relative to rotor head	<a href="#">B64C 27/54</a>
VTOL aircraft	<a href="#">B64C 29/00</a>

## B64C 27/56

**characterised by the control initiating means, e.g. manually actuated**

### Definition statement

*This place covers:*

Cyclic sticks and collective levers as well as associated components and details in the region thereof.

### References

#### Informative references

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

Personal control surface initiating means in aeroplanes	<a href="#">B64C 13/04</a>
Transmitting means, e.g. interrelated with initiating means or means acting on blades	<a href="#">B64C 27/58</a>



Controlling members in general (e.g. joysticks, handles)	<a href="#">G05G</a>
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## B64C 27/57

automatic or condition responsive, e.g. responsive to rotor speed, torque or thrust

### Definition statement

*This place covers:*

Can also cover maintaining hover position or attitude.

### Relationships with other classification places

Automatic or condition responsive initiating members in aeroplanes: [B64C 13/16](#) - [B64C 13/22](#)

Fly-by-wire or fly-by-light: [B64C 13/503](#)

Automatic or condition responsive initiating members in aircraft power plant control:  
[B64D 31/06](#) - [B64D 31/12](#)

### References

#### Informative references

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

Control of position, course, altitude or attitude of land, water, air or space vehicles	<a href="#">G05D 1/00</a>
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## B64C 27/58

Transmitting means, e.g. interrelated with initiating means or means acting on blades (means acting on blades [B64C 27/72](#))

### Definition statement

*This place covers:*

Transmitting means downstream of the cyclic stick and the collective lever.

### References

#### Limiting references

*This place does not cover:*

Means acting on blades	<a href="#">B64C 27/72</a>
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#### Informative references

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

Transmitting means for aeroplanes	<a href="#">B64C 13/24</a> - <a href="#">B64C 13/503</a>
Initiating means	<a href="#">B64C 27/56</a>

## B64C 27/72

### Means acting on blades

#### Definition statement

*This place covers:*

Individual blade control by acting directly on the blade, e.g. by a separate actuator for each blade.

#### References

##### Informative references

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

Individual rotor blade control using flaps on the blades	<a href="#">B64C 27/615</a>
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## B64C 29/00

### Aircraft capable of landing or taking-off vertically, e.g. vertical take-off and landing [VTOL] aircraft (rotorcraft [B64C 27/00](#))

#### Definition statement

*This place covers:*

Vertical take-off and landing (VTOL) aircraft, e.g. of the tiltrotor types.

#### References

##### Limiting references

*This place does not cover:*

Rotorcraft	<a href="#">B64C 27/00</a>
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##### Informative references

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

Attitude, flight direction, or altitude control by jet reaction	<a href="#">B64C 15/00</a>
Air-cushion vehicles	<a href="#">B60V</a>
Details of jet-engine plants, e.g. of nozzles or jet pipes	<a href="#">F02K</a>

## B64C 29/0066

### {with horizontal jet and jet deflector}

#### Definition statement

*This place covers:*

Also covers horizontal propeller/blower and airflow deflector.

## B64C 30/00

### Supersonic type aircraft

#### Definition statement

*This place covers:*

- Complete aircraft or structural features described as facilitating supersonic/hypersonic flight, including special shapes and planforms of complete aircraft.
- Sonic boom alleviation means and methods.

#### References

##### Informative references

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

Airfoil profiles	<a href="#">B64C 3/14</a>
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## B64C 31/00

### Aircraft intended to be sustained without power plant; Powered hang-glider-type aircraft; Microlight-type aircraft

#### Definition statement

*This place covers:*

- Gliders/sailplanes, accessories therefor when they cannot be classified elsewhere.- Microlight, ultralight and Light Sport Aircraft, and safety devices therefore (e.g. Ballistic Rescue Systems).
- Hang-gliders (e.g. of the "Rogallo" type).
- Man-powered (e.g. using pedals to drive a propeller) aircraft.
- Kites.

## B64C 31/02

### Gliders, e.g. sailplanes (hang-gliders [B64C 31/028](#))

#### Definition statement

*This place covers:*

Also covers accessories for gliders (e.g. insect removal from leading edges) which cannot be adequately classified elsewhere.

#### References

##### Limiting references

*This place does not cover:*

Hang-gliders	<a href="#">B64C 31/028</a>
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## B64C 31/028

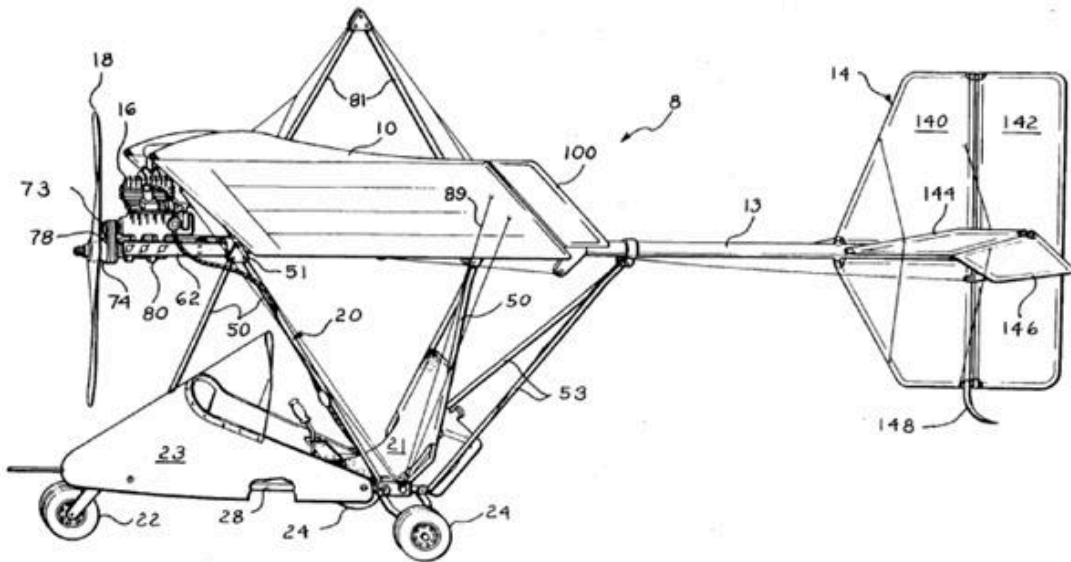
### Hang-glider-type aircraft; Microlight-type aircraft

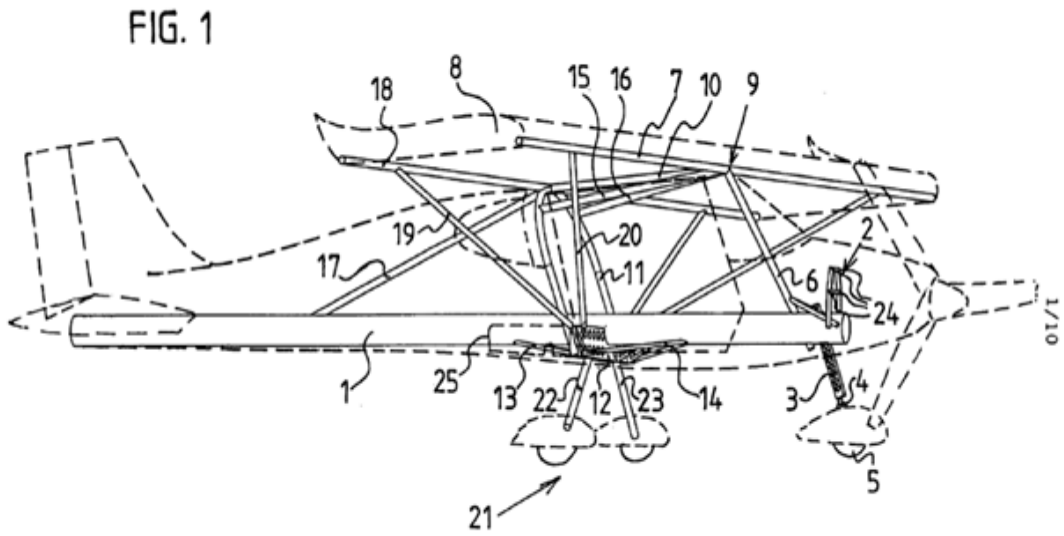
#### Definition statement

*This place covers:*

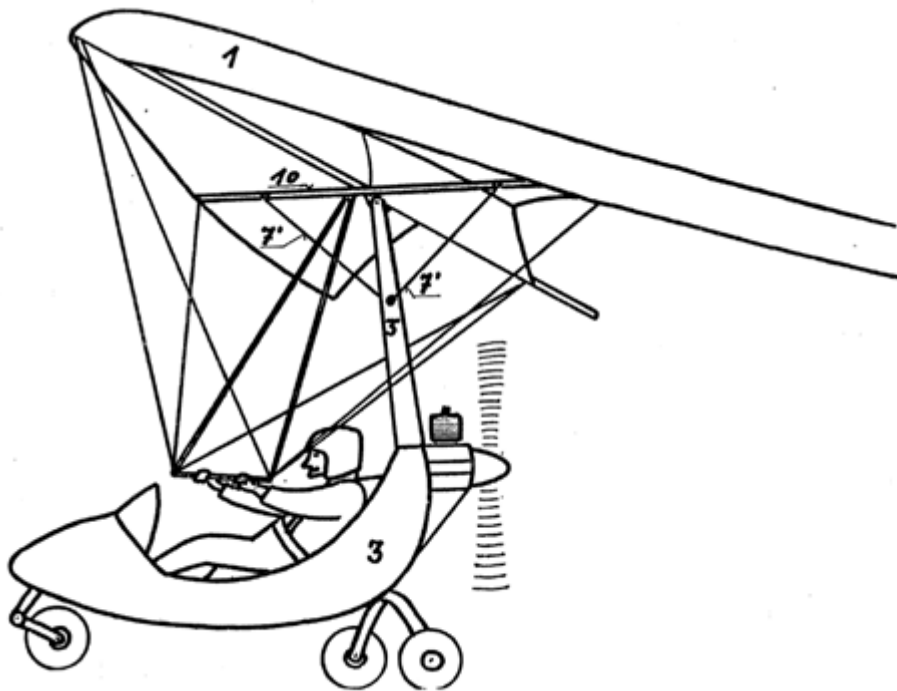
Hang-glider-type aircraft; Microlight-type aircraft, i.e. mainly very simple and light, powered single or two-seat aircraft with an open frame fuselage, but also covers light, single or two-seat aircraft when the emphasis is on low weight and simplicity, and/or when described as an "ultralight", "microlight" or "light sport aircraft".

Illustrative examples of subject matter classified in this group:

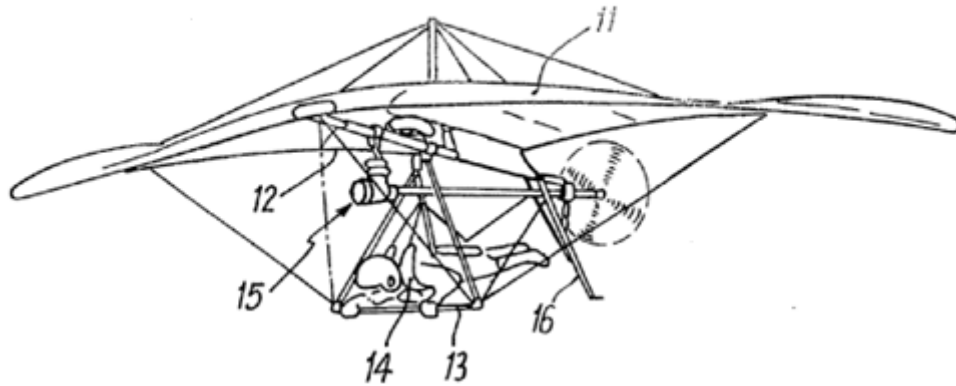




Example of "trike" or weight-shift controlled microlight:



Example of powered hang-glider:



### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Microlight or ultralight	Also covers the type of aircraft known in the USA as "Light Sport Aircraft"
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### Synonyms and Keywords

*In patent documents, the following abbreviations are often used:*

ULM	Avion ultra-légèr motorisé
-----	----------------------------

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

- "ultralight aircraft", "light sport aircraft", "microlight aircraft" and "Ultraleichtflugzeug"(German)
- "trike"(English, German), "weight-shift control" and "gewichtskraftgesteuert" (German)

## B64C 31/0285

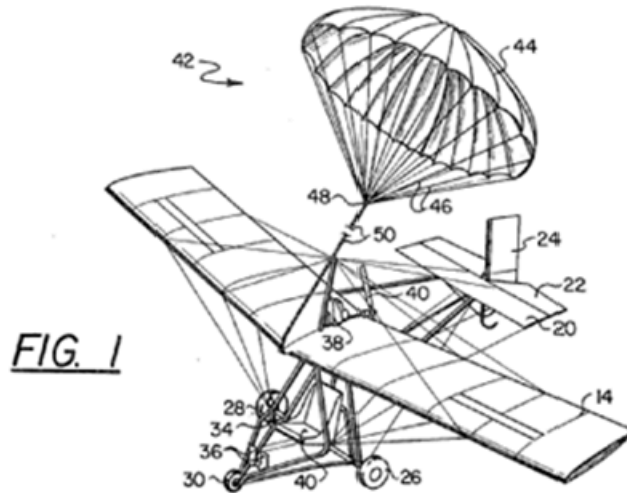
### {Safety devices}

#### Definition statement

*This place covers:*

For example (ballistic) parachute rescue systems specially adapted to microlight aircraft or hang-gliders.

Illustrative example of subject matter classified in this group:



## References

### Informative references

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

Ejectable capsules	<a href="#">B64D 25/12</a>
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## B64C 31/032

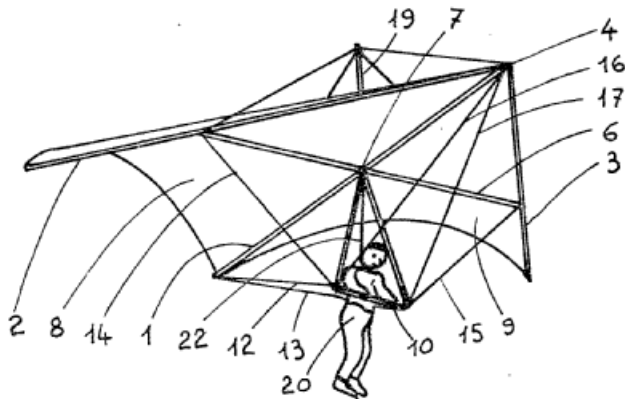
having delta shaped wing

### Definition statement

This place covers:

Mainly unpowered hang-gliders with rigid, delta-shaped wings of the "Rogallo"-type.

Illustrative example of a delta-shaped wing:



Also covers powered, microlight aircraft when comprising details of such wings.

## **B64C 31/036**

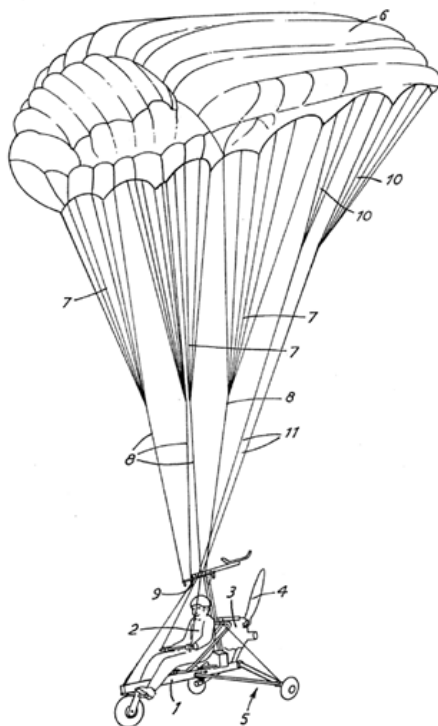
**having parachute-type wing**

### **Definition statement**

*This place covers:*

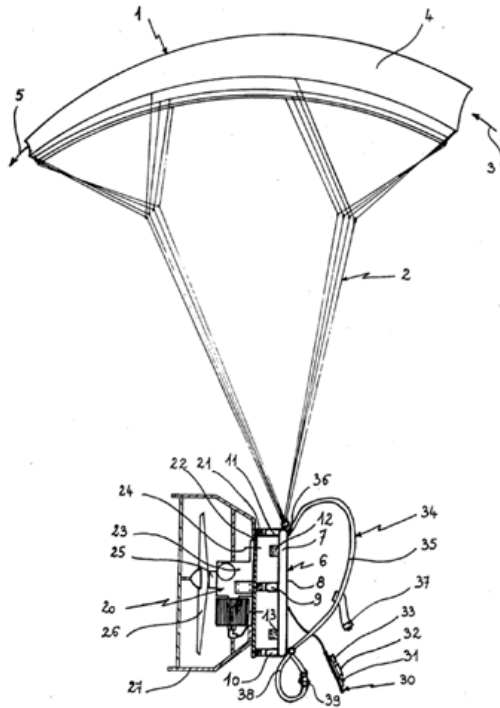
Microlight aircraft - mainly powered - with a parachute or parafoil type wing attached to a rigid/substantial structure (e.g. framework or rigid seat). Also covers backpack-type powerplants for paragliders.

Illustrative example of subject matter classified in this group:





Illustrative example of subject matter (backpack-powerplant) classified in this group:



**References**

**Informative references**

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

Parachutes	<a href="#">B64D 17/00</a>
Paragliders	<a href="#">B64D 17/025</a>

**B64C 31/04**

**Man-powered aircraft**

**Definition statement**

*This place covers:*

Propulsive power produced by the pilot, e.g. pedals connected to a propeller.

**References**

**Informative references**

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

Ornithopters	<a href="#">B64C 33/00</a>
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**B64C 31/06**

Kites (toy aspects [A63H 27/08](#); airborne towed targets, e.g. kites [F41J 9/10](#))

**References****Limiting references**

*This place does not cover:*

Toy aspects	<a href="#">A63H 27/08</a>
Airborne towed targets, e.g. kites	<a href="#">F41J 9/10</a>

**Application-oriented references**

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

For propelling water sports boards	<a href="#">B63H 8/10</a>
For propelling vessels	<a href="#">B63H 9/069</a>

**Informative references**

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

Hang-gliders	<a href="#">B64C 31/028</a>
Advertising with kites	<a href="#">G09F 21/06</a>

**B64C 33/00****Ornithopters****Definition statement**

*This place covers:*

All aircraft which fly by flapping the wings.

**References****Informative references**

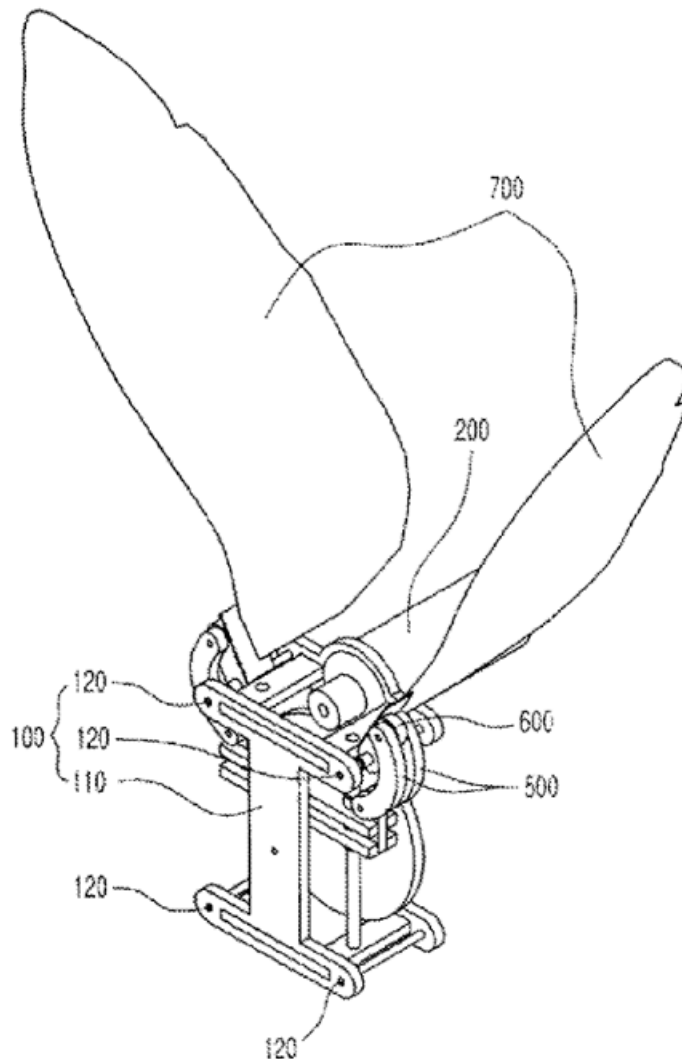
*Attention is drawn to the following places, which may be of interest for search:*

Toy aircraft propelled by flapping of wings	<a href="#">A63H 27/008</a>
Ornithopter unmanned aerial vehicles	<a href="#">B64U 10/40</a>

**B64C 33/02****Wings; Actuating mechanisms therefor****Definition statement**

*This place covers:*

Illustrative example of ornithopter wings and actuating mechanism therefor:

**B64C 35/00****Flying-boats; Seaplanes****Definition statement**

*This place covers:*

The word "seaplane" is used to describe two types of air/water vehicles: the floatplane and the flying boat. A floatplane has slender floats, mounted under the fuselage. Two floats are common, but other configurations are possible. Only the floats of a floatplane normally come into contact with water. The fuselage remains above water. In a flying boat, the main source of buoyancy is the fuselage, which

## Definition statement

acts like a ship's hull in the water. Most flying boats have small floats mounted on their wings to keep them stable.

## References

### Informative references

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

Alighting gear	<a href="#">B64C 25/00</a>
Floats	<a href="#">B64C 25/54</a>

## B64C 35/005

{with propellers, rudders or brakes acting in the water}

### Definition statement

*This place covers:*

Comprising devices acting in the water to generate thrust and/or slow down and/or steer the aircraft (e.g. propellers, jets, rudders).

## B64C 35/006

{with lift generating devices}

### Definition statement

*This place covers:*

Comprising lift generating devices which are peculiar to the shape of a seaplane.

## B64C 35/008

{Amphibious sea planes}

### Definition statement

*This place covers:*

Aircraft suitable for ground and water take-off and landing.

## B64C 37/00

Convertible aircraft

### Definition statement

*This place covers:*

Combined road (and/or water) /air vehicles usually provided with wheels (and/or e.g. pontoons) and in-air propelling/thrust means.

## References

### Informative references

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

Vehicles capable of travelling in or on different media	<a href="#">B60F</a>
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Vehicles capable of travelling in or on different media, convertible into aircraft	<a href="#">B60F 5/02</a>
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## **B64C 37/02**

**Flying units formed by separate aircraft (towing [B64D 3/00](#); aircraft transported by aircraft [B64D 5/00](#); air-refuelling [B64D 39/00](#))**

### **Definition statement**

*This place covers:*

Flying units wherein (possibly after an initial engagement phase) the multitude of (possibly different) flying vehicles (possibly including ground and/or water vehicles and/or dedicated units) are permanently connected.

### **References**

#### **Limiting references**

*This place does not cover:*

Towing	<a href="#">B64D 3/00</a>
Aircraft transported by aircraft	<a href="#">B64D 5/00</a>
Air-refuelling	<a href="#">B64D 39/00</a>

#### **Informative references**

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

Automatic pilots	<a href="#">G05D 1/00</a>
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## **B64C 39/00**

**Aircraft not otherwise provided for**

### **Definition statement**

*This place covers:*

Essentially all the flying vehicles not classified in one of the previous groups, highly unconventional aircraft.

## **B64C 39/001**

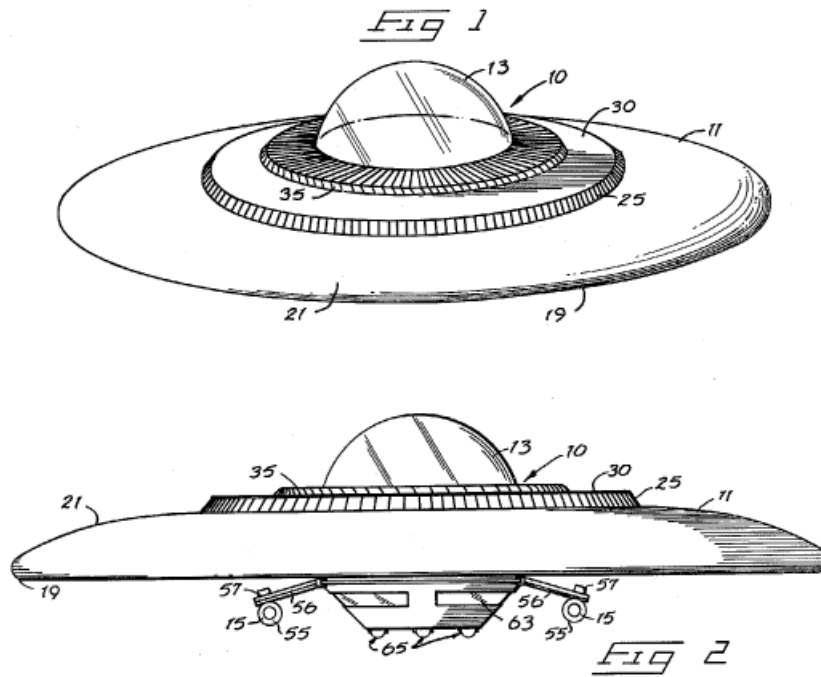
**{Flying saucers}**

### **Definition statement**

*This place covers:*

Flying vehicles characterised by sustainment without aerodynamic lift, engine thrust or buoyant gas. Lifting arrangements which violate the laws of physics, e.g. closed-loop systems.

Illustrative example of a flying saucer:



## References

### Informative references

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

Rotorcraft characterized by having shrouded rotors, e.g. flying platforms	<a href="#">B64C 27/20</a>
Aircraft having disc or ring-shaped wings	<a href="#">B64C 39/06</a>
Aircraft having annular wings with radial airflow	<a href="#">B64C 39/064</a>
Inertia motors	<a href="#">F03G</a>

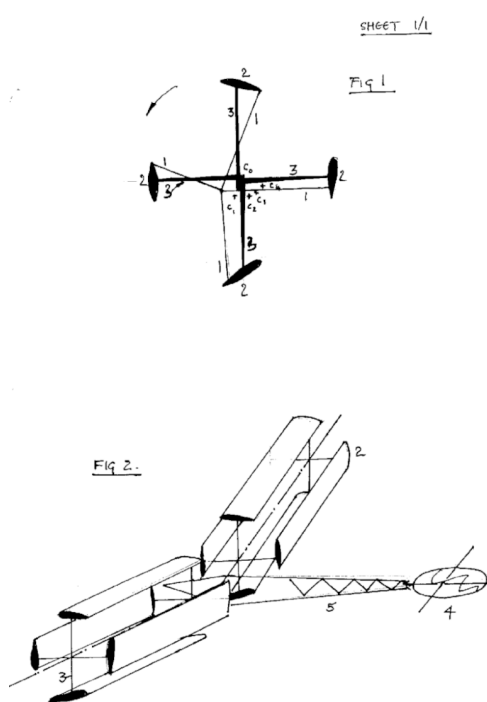
## B64C 39/003

{with wings, paddle wheels, bladed wheels, moving or rotating in relation to the fuselage (rotorcraft [B64C 27/00](#); ornithopters [B64C 33/00](#))}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in this group:



### References

#### Limiting references

*This place does not cover:*

Rotorcraft	<a href="#">B64C 27/00</a>
Ornithopters	<a href="#">B64C 33/00</a>

#### Informative references

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

Paddle wheels	<a href="#">B64C 11/006</a>
Using Magnus effect	<a href="#">B64C 23/08</a>
Rotorcraft unmanned aerial vehicles	<a href="#">B64U 10/10</a>
Ornithopter unmanned aerial vehicles	<a href="#">B64U 10/40</a>

**B64C 39/022****{Tethered aircraft}****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Captive toy aircraft	<a href="#">A63H 27/04</a>
Tethered unmanned aerial vehicles	<a href="#">B64U 10/60</a>

**B64C 39/024****{of the remote controlled vehicle type, i.e. RPV}****Definition statement***This place covers:*

Remotely piloted flying vehicles in general.

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

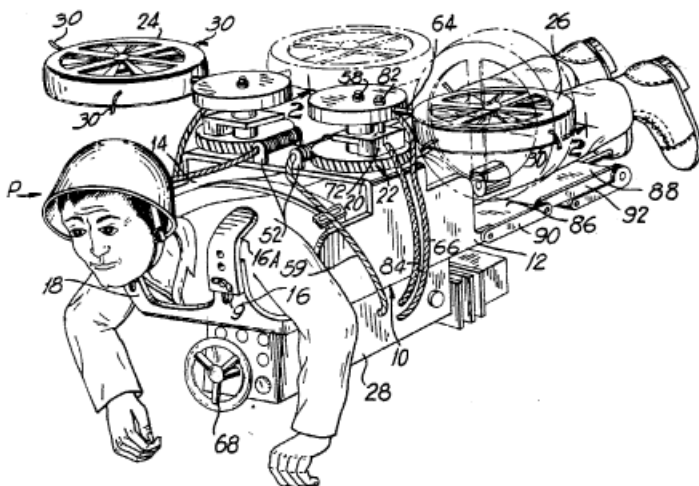
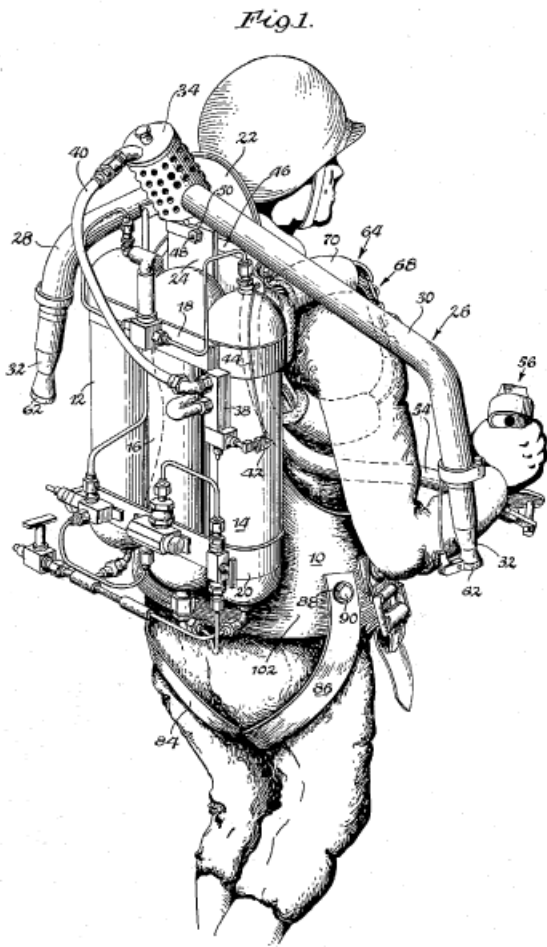
Unmanned aerial vehicles	<a href="#">B64U</a>
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**B64C 39/026****{for use as personal propulsion unit}****Definition statement***This place covers:*

Devices including rotors, wings, propellers, turbojets to be "worn" by a user.



Illustrative examples of subject matter classified in this group:



## References

### Informative references

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

Ornithopters	<a href="#">B64C 33/00</a>
Sports garments, e.g. for skydiving	<a href="#">A41D 13/0015</a>

Power-driven personal watercraft for hydroflight sports	<a href="#">B63B 34/15</a>
Parachutes	<a href="#">B64D 17/00</a>
Rotary wing parachutes	<a href="#">B64D 19/02</a>

## B64C 39/028

### {Micro-sized aircraft}

#### Definition statement

*This place covers:*

MAVs (microaerial vehicles), usually for military purposes, any maximum dimension of which does not exceed 15 cm (6 inches).

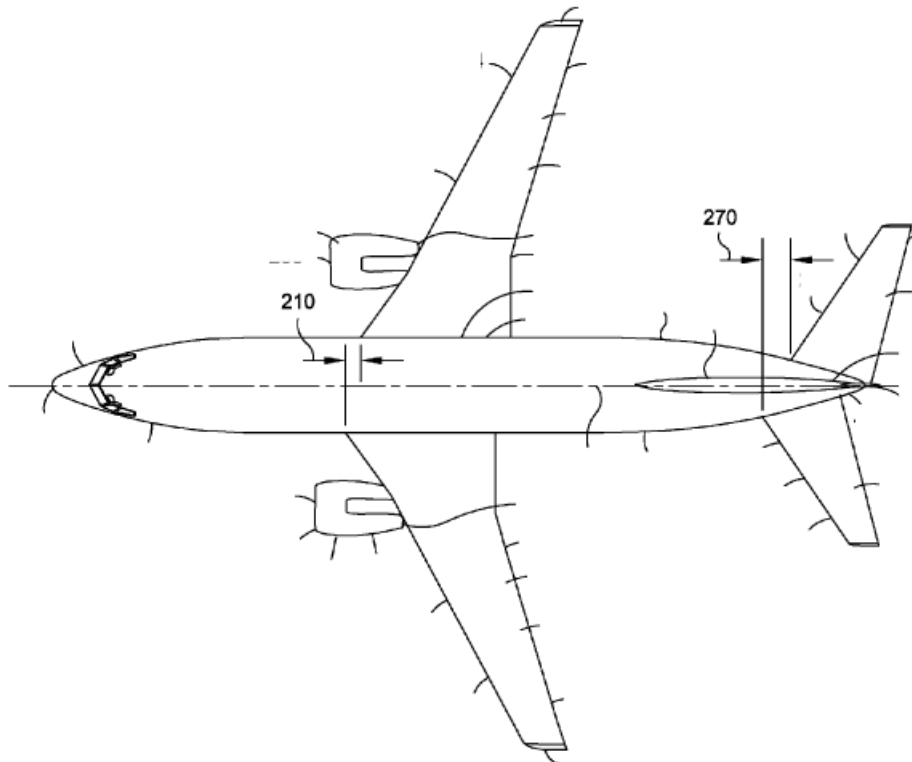
## B64C 39/029

### {Asymmetrical aircraft}

#### Definition statement

*This place covers:*

Aircraft that lack symmetry with respect to a longitudinal vertical plane.



**References**

**References out of a residual place**

Examples of places in relation to which this place is residual:

Rotorcraft asymmetry due to placement of auxiliary rotor or fluid-jet device for counter-balancing lifting rotor torque	<a href="#">B64C 27/82</a>
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**B64C 39/04**

having multiple fuselages or tail booms

**Relationships with other classification places**

Flying units formed by separate aircraft: [B64C 37/02](#)

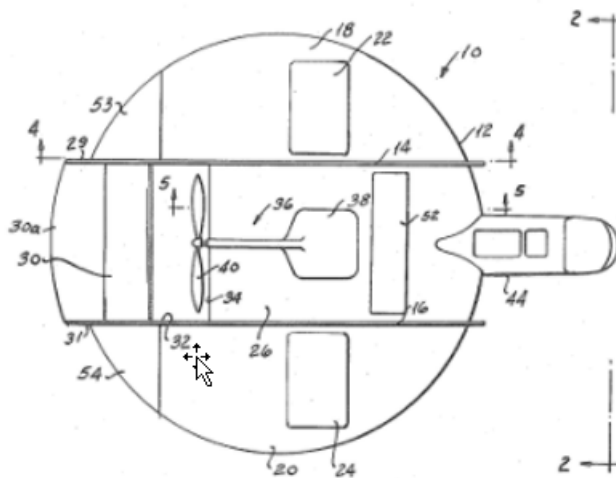
**B64C 39/06**

having disc- or ring-shaped wings

**Definition statement**

This place covers:

Illustrative example of subject matter classified in this group:



**References**

**Informative references**

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

Aircraft capable of landing or taking-off vertically, having its flight directional axis vertical when grounded	<a href="#">B64C 29/02</a>
Flying saucers	<a href="#">B64C 39/001</a>

## B64C 39/062

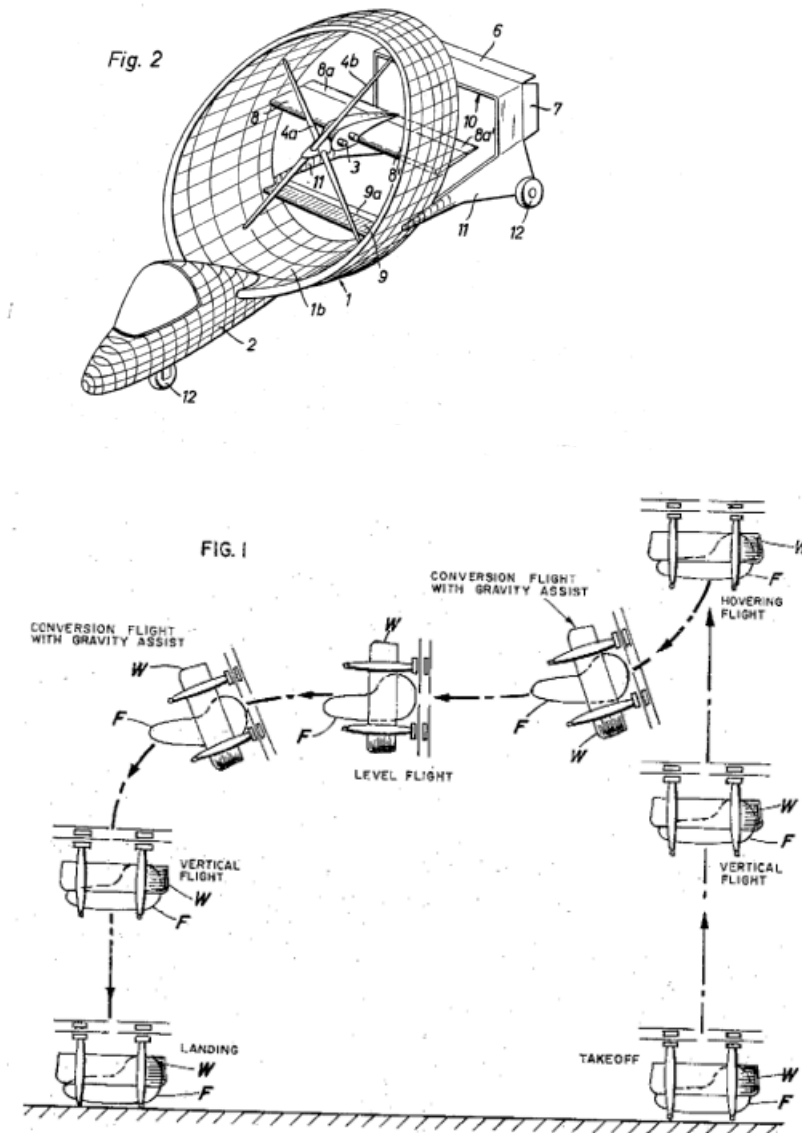
{having annular wings}

### Definition statement

*This place covers:*

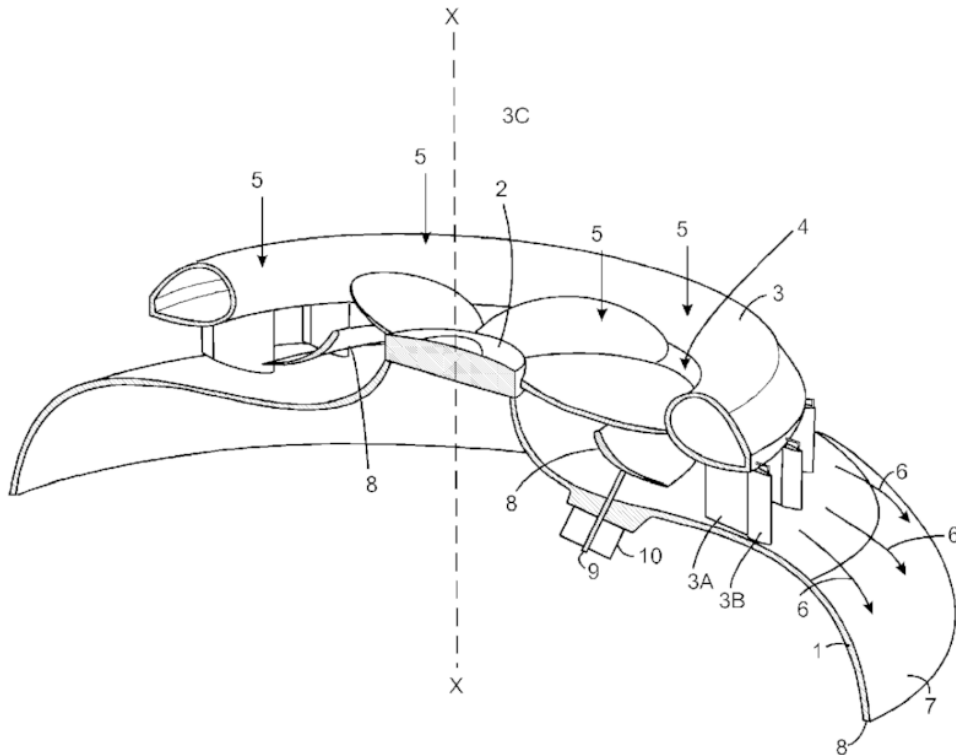
Aircraft having ring-shaped wings wherein the air flow in level flight is parallel to an axis of revolution of said ring

Illustrative examples of annular wings:



**B64C 39/064****{with radial airflow}****Definition statement***This place covers:*

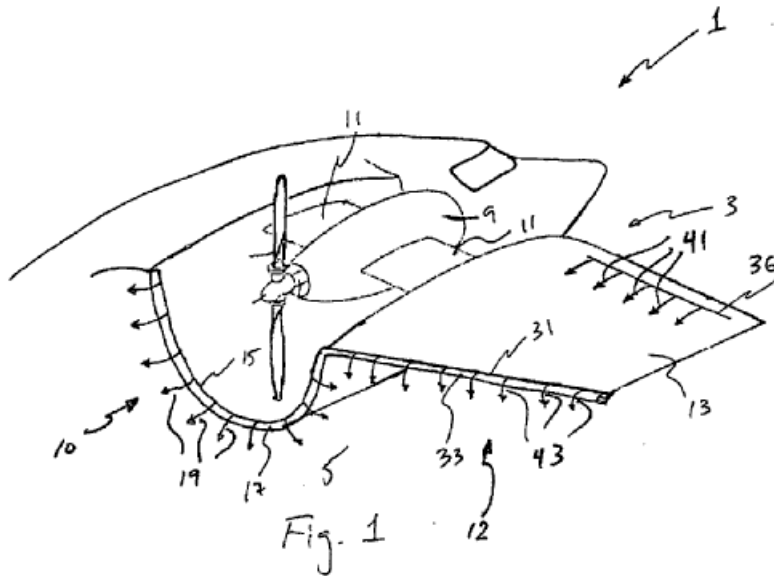
Illustrative example of annular wing with radial airflow:

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

Flying saucers	<a href="#">B64C 39/001</a>
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**B64C 39/066****{having channel wings}****Definition statement***This place covers:*

Illustrative example of channel wings:

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

Frontal shape of wings	<a href="#">B64C 3/16</a>
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**B64C 39/068**

{having multiple wings joined at the tips}

**Definition statement**

*This place covers:*

Illustrative example of multiple wings joined at the tips:

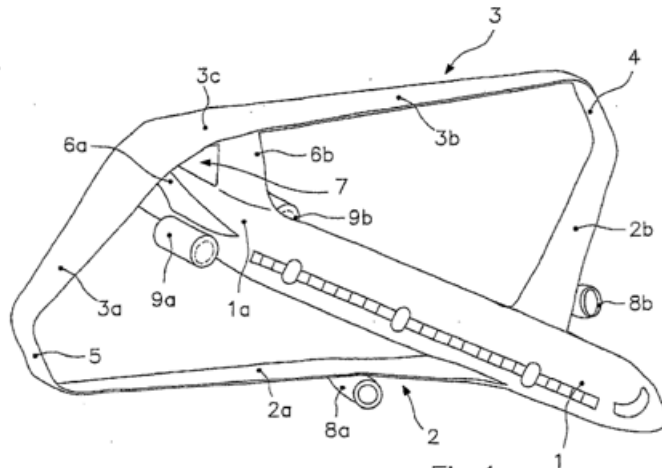


Fig.1

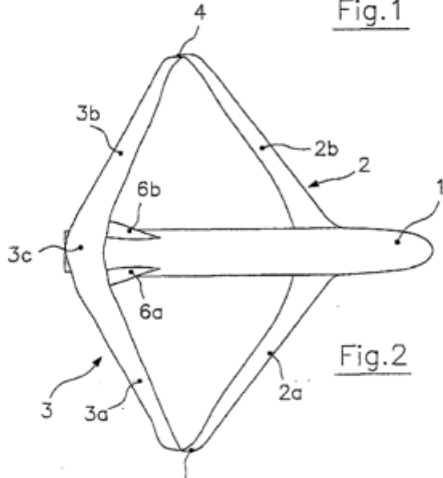


Fig.2

**References**

**Informative references**

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

Frontal shape of wings	<a href="#">B64C 3/16</a>
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**B64C 39/08****having multiple wings****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Having disc- or ring-shaped wings	<a href="#">B64C 39/06</a>
Canard-type aircraft	<a href="#">B64C 39/12</a>

**B64C 39/10****All-wing aircraft****Definition statement***This place covers:*

This group includes e.g. the BWB (blended-wing-body)-type aircraft

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

Flying saucers	<a href="#">B64C 39/001</a>
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