

# CPC COOPERATIVE PATENT CLASSIFICATION

## E05D HINGES OR OTHER SUSPENSION DEVICES FOR DOORS, WINDOWS OR WINGS

({foldable tables [A47B 3/00](#); hinged panels [A47B 5/00](#); foldable chairs [A47C 4/00](#); making hinges [B21D 53/40](#), [B21K 13/02](#); making holes for taking-up fittings [B27F 5/12](#); for vehicle tailboards [B60P 1/26](#); for refuse receptacles [B65F 1/1646](#) } ; pivotal connections in general [F16C 11/00](#) { ; mounting of stove or range doors [F24C 15/023](#); for folding flat displays of portable computers [G06F 1/1616](#)})

### WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<a href="#">E05D 5/16</a>	covered by	<a href="#">E05D 5/14</a>
<a href="#">E05D 7/081</a>	covered by	<a href="#">E05D 7/08</a>
<a href="#">E05D 7/083</a>	covered by	<a href="#">E05D 7/082</a>
<a href="#">E05D 15/04</a>	covered by	<a href="#">E05D 15/02</a> , <a href="#">E05D 15/28</a> , <a href="#">E05D 15/403</a>
<a href="#">E05D 15/522</a>	covered by	<a href="#">E05D 15/52</a>
<a href="#">E05D 15/523</a>	covered by	<a href="#">E05D 15/52</a>
<a href="#">E05D 15/524</a>	covered by	<a href="#">E05D 15/52</a>

<b>1/00</b>	<b>Pinless hinges; Substitutes for hinges</b>	3/186	. . . {Scissors hinges, with two crossing levers and five parallel pins}
1/02	. made of one piece		
1/04	. with guide members shaped as circular arcs		
2001/045	. . {for telescopic hinges}	<b>5/00</b>	<b>Construction of single parts, e.g. the parts for attachment</b>
1/06	. consisting of two easily-separable parts	5/02	. Parts for attachment, e.g. flaps
<b>3/00</b>	<b>Hinges with pins ({<a href="#">E05D 7/08</a> takes precedence})</b>	5/0207	. . {for attachment to vehicles ( <a href="#">E05D 5/043</a> , <a href="#">E05D 5/062</a> take precedence)}
3/02	. with one pin	5/0215	. . {for attachment to profile members or the like}
3/022	. . {allowing an additional lateral movement, e.g. for sealing}	5/0223	. . . {with parts, e.g. screws, extending through the profile wall or engaging profile grooves}
2003/025	. . {having three knuckles}	5/023	. . . . {with parts extending through the profile wall}
2003/027	. . . {the end knuckles being mutually connected}	5/0238	. . . . {with parts engaging profile grooves}
3/04	. . engaging three or more parts, e.g. sleeves, movable relatively to one another for connecting two or more wings to another member	5/0246	. . {for attachment to glass panels}
3/06	. with two or more pins ( <a href="#">E05D 7/08</a> takes precedence)	2005/0253	. . . {the panels having conical or stepped recesses}
3/08	. . for swing-doors, i.e. openable by pushing from either side	2005/0261	. . . {connecting two or more glass panels}
3/10	. . with non-parallel pins	2005/0269	. . . . {the panels being coplanar}
3/12	. . with two parallel pins and one arm	5/0276	. . {for attachment to cabinets or furniture, the hinge having two or more pins ( <a href="#">E05D 5/046</a> , <a href="#">E05D 5/065</a> , <a href="#">E05D 7/125</a> take precedence)}
3/122	. . . {Gear hinges}	2005/0284	. . {for embedding in concrete or masonry}
3/125	. . . {specially adapted for vehicles}	2005/0292	. . {for passing through insulating layers}
3/127	. . . . {for vehicle doors}	5/04	. Flat flaps
3/14	. . with four parallel pins and two arms	5/043	. . . {specially adapted for vehicles}
3/142	. . . {with at least one of the hinge parts having a cup-shaped fixing part, e.g. for attachment to cabinets or furniture ( <a href="#">E05D 11/1021</a> takes precedence)}	5/046	. . . {specially adapted for cabinets or furniture}
3/145	. . . {specially adapted for vehicles}	5/06	. Bent flaps
3/147	. . . . {for vehicle doors}	5/062	. . . {specially adapted for vehicles}
3/16	. . with seven parallel pins and four arms	5/065	. . . {specially adapted for cabinets or furniture}
2003/163	. . . {Horizontal pivot-axis}	2005/067	. . . {gooseneck shaped}
2003/166	. . . {Vertical pivot-axis}	5/08	. of cylindrical shape
3/18	. . with sliding pins or guides	5/10	. Pins, sockets or sleeves; Removable pins ( <a href="#">E05D 15/522</a> takes precedence)
3/183	. . . {with at least one of the hinge parts having a cup-shaped fixing part, e.g. for attachment to cabinets or furniture}	2005/102	. . {Pins}
		2005/104	. . . {characterised by the materials}
		2005/106	. . . {with non-cylindrical portions}
		2005/108	. . . {with elastically deformable parts}
		5/12	. . Securing pins in sockets, movably or not
		5/121	. . . {Screw-threaded pins}
		2005/122	. . . . {externally threaded}

- 2005/124 . . . {internally threaded}
- 5/125 . . . {Non-removable, snap-fitted pins (removable snap-fitted pins [E05D 7/1022](#), [E05D 7/1055](#))}
- 5/127 . . . {by forcing the pin into the socket ([E05D 5/125](#) takes precedence)}
- 5/128 . . . {the pin having a recess or through-hole engaged by a securing member}
- 5/14 . . Construction of sockets or sleeves
- 2005/145 . . . {with elastically deformable parts}
- 5/16 . . . to be secured without special attachment parts on the socket or sleeve
- 7/00 Hinges or pivots of special construction (used for special suspension arrangements [E05D 15/00](#); so as to be self-closing [E05F 1/06](#), [E05F 1/12](#); with means for raising wings before being turned [E05F 7/02](#))**
  - 7/0009 . {Adjustable hinges ([E05D 7/04](#) takes precedence)}
  - 7/0018 . . {at the hinge axis}
  - 7/0027 . . . {in an axial direction}
  - 2007/0036 . . . . {with axially fixed hinge pins}
  - 7/0045 . . . {in a radial direction}
  - 7/0054 . . . . {by means of eccentric parts}
  - 2007/0063 . . . . . {Eccentric hinge pins}
  - 2007/0072 . . . . {with sliding sleeves}
  - 2007/0081 . . . . {with swinging or rolling sleeves}
  - 7/009 . {Elongate hinges, e.g. piano-hinges}
  - 7/02 . for use on the right-hand as well as the left-hand side; Convertible right-hand or left-hand hinges
  - 7/04 . Hinges adjustable relative to the wing or the frame
  - 7/0407 . . {the hinges having two or more pins and being specially adapted for cabinets or furniture}
  - 7/0415 . . {with adjusting drive means}
  - 7/0423 . . . {Screw-and-nut mechanisms ([E05D 7/0407](#), [E05D 7/043](#) take precedence)}
  - 7/043 . . {by means of dowel attachments}
  - 2007/0438 . . . {with bolts fixedly mounted on the hinge part}
  - 2007/0446 . . . {with threaded bolts fixedly mounted on the hinge part}
  - 2007/0453 . . . {with threaded sleeves}
  - 2007/0461 . . {in angular arrangement to the wing or the frame}
  - 2007/0469 . . {in an axial direction}
  - 2007/0476 . . {Pocket hinges}
  - 2007/0484 . . {in a radial direction}
  - 2007/0492 . . {in three directions}
  - 7/06 . to allow tilting of the members
  - 7/08 . for use in suspensions comprising two spigots placed at opposite edges of the wing, especially at the top and the bottom, e.g. trunnions ([E05D 15/266](#) takes precedence)}
  - 7/081 . . the pivot axis of the wing being situated near one edge of the wing, especially at the top and bottom, e.g. trunnions
  - 7/082 . . the pivot axis of the wing being situated at a considerable distance from the edges of the wing, {e.g. for balanced wings}
  - 7/083 . . . with a fixed pivot axis
  - 7/084 . . . with a movable pivot axis
  - 7/085 . . . . with two or more pivot axes, e.g. used at the same time
  - 7/086 . . . Braking devices structurally combined with hinges (braking devices for windows [per se](#) [E05F 5/00](#))
- 7/10 . to allow easy separation {or connection} of the parts at the hinge axis ({[E05D 5/12](#) and [E05D 15/50](#) take precedence} ; substitutes for hinges [E05D 1/06](#))
- 7/1005 . . {by axially moving free pins, balls or sockets}
- 7/1011 . . . {biased by free springs ([E05D 7/1016](#) takes precedence)}
- 7/1016 . . . {requiring a specific angular position}
- 7/1022 . . . {with snap-fitted pins}
- 2007/1027 . . . {by axially moving free pins}
- 2007/1033 . . . {by axially moving free balls}
- 2007/1038 . . . {by axially moving free sockets}
- 7/1044 . . {in an axial direction ([E05D 7/1005](#) takes precedence)}
- 7/105 . . . {requiring a specific angular position}
- 7/1055 . . . {with snap-fitted pins}
- 7/1061 . . {in a radial direction ([E05D 7/1005](#) takes precedence)}
- 7/1066 . . . {requiring a specific angular position}
- 7/1072 . . . . {the pin having a non-circular cross-section}
- 7/1077 . . . {with snap-fitted pins}
- 7/1083 . . {facilitating simultaneous assembly of a plurality of hinges, e.g. for mounting heavy wings}
- 2007/1088 . . . {using hinge pins having different lengths}
- 2007/1094 . . {Guiding devices therefor}
- 7/12 . to allow easy detachment of the hinge from the wing or the frame ({[E05D 15/507](#) takes precedence})
- 7/121 . . {specially adapted for vehicles}
- 7/123 . . {specially adapted for cabinets or furniture}
- 7/125 . . . {the hinge having two or more pins}
- 2007/126 . . {in an axial direction}
- 2007/128 . . {in a radial direction}
- 7/14 . Hinges for safes
- 9/00 Flaps or sleeves specially designed for making from particular material, e.g. hoop-iron, sheet metal, plastics**
  - 9/005 . {from plastics ([E05D 1/02](#) takes precedence)}
- 11/00 Additional features or accessories of hinges {(edge protecting devices [E06B 3/88](#))}**
  - 11/0009 . {Templates for marking the position of fittings on wings or frames (implements for making doors, windows or frames [E04F 21/003](#))}
  - 11/0018 . {Anti-tamper devices}
  - 11/0027 . . {arranged on or near the hinge and comprising parts interlocking as the wing closes, e.g. security studs}
  - 2011/0036 . . . {near the hinge}
  - 2011/0045 . . . {on the hinge}
  - 11/0054 . {Covers, e.g. for protection}
  - 2011/0063 . . {for screw-heads or bolt-heads}
  - 2011/0072 . . {for the gap between hinge parts}
  - 11/0081 . {for transmitting energy, e.g. electrical cable routing}
  - 2011/009 . {Impact absorbing hinges for vehicle doors}
  - 11/02 . Lubricating arrangements
  - 11/04 . relating to the use of free balls as bearing-surfaces ([E05D 7/06](#) takes precedence)
  - 2011/045 . . {located in line with the hinge axis}
  - 11/06 . Devices for limiting the opening movement of hinges
  - 11/08 . Friction devices between relatively-movable hinge parts ([E05D 7/086](#) takes precedence)

- 11/081 . . {with both radial and axial friction, e.g. conical friction surfaces}
- 11/082 . . {with substantially radial friction, e.g. cylindrical friction surfaces}
- 11/084 . . . {the friction depending on direction of rotation or opening angle of the hinge}
- 2011/085 . . . {the friction depending on the opening angle}
- 11/087 . . {with substantially axial friction, e.g. friction disks}
- 2011/088 . . {with automatic disengagement}
- 11/10 . . Devices for preventing movement between relatively-movable hinge parts
- 11/1007 . . {with positive locking}
- 11/1014 . . {for maintaining the hinge in only one position, e.g. closed}
- 11/1021 . . . {the hinge having two or more pins and being specially adapted for cabinets or furniture}
- 11/1028 . . {for maintaining the hinge in two or more positions, e.g. intermediate or fully open}
- 2011/1035 . . . {with circumferential and evenly distributed detents around the pivot-axis}
- 11/1042 . . . {the maintaining means being a cam and a torsion bar, e.g. motor vehicle hinge mechanisms}
- 11/105 . . . {the maintaining means acting perpendicularly to the pivot axis}
- 11/1057 . . . . {specially adapted for vehicles ([E05D 11/1064 takes precedence](#))}
- 11/1064 . . . . {with a coil spring perpendicular to the pivot axis}
- 11/1071 . . . . {specially adapted for vehicles}
- 11/1078 . . . {the maintaining means acting parallel to the pivot}
- 11/1085 . . . . {specially adapted for vehicles}
- 2011/1092 . . {the angle between the hinge parts being adjustable}
- 13/00 Accessories for sliding or lifting wings, e.g. pulleys, safety catches** ({closers or openers for horizontally sliding wings [E05F 1/02](#), [E05F 1/08](#)}; counterbalance devices {for swinging wings} [E05F 1/00](#), [E05F 3/00](#))
- 13/003 . {Anti-dropping devices ([E05D 13/1223](#), [E05D 13/1246](#), [E05D 13/1269](#), [E05D 13/1292 take precedence](#))}
- 13/006 . . {fixed to the wing, i.e. safety catches}
- 13/04 . {Fasteners specially adapted for holding sliding wings open ([for holding wings closed E05C](#))}
- 13/06 . . {with notches for vertically sliding wings}
- 13/08 . . {acting by friction for vertically sliding wings}
- 13/10 . {Counterbalance devices}
- 13/12 . . {with springs}
- 13/1207 . . . {with tension springs}
- 13/1215 . . . . {specially adapted for overhead wings ([E05D 13/1223 takes precedence](#))}
- 13/1223 . . . . {Spring safety devices}
- 13/123 . . . {with compression springs}
- 13/1238 . . . . {specially adapted for overhead wings ([E05D 13/1246 takes precedence](#))}
- 13/1246 . . . . {Spring safety devices}
- 13/1253 . . . {with canted-coil torsion springs}
- 13/1261 . . . . {specially adapted for overhead wings ([E05D 13/1269 takes precedence](#))}
- 13/1269 . . . . {Spring safety devices}
- 13/1276 . . . {with coiled ribbon springs, e.g. constant force springs ([E05D 13/1253 takes precedence](#))}
- 13/1284 . . . . {specially adapted for overhead wings ([E05D 13/1292 takes precedence](#))}
- 13/1292 . . . . {Spring safety devices}
- 13/14 . . {with weights}
- 13/145 . . . {specially adapted for overhead wings}
- 15/00 Suspension arrangements for wings** (arrangements of wings not characterised by the construction of the supporting means [E06B 3/32](#))
- 15/02 . for revolving wings
- 15/04 . with arms fixed on the wing pivoting about an axis outside of the wing
- 15/06 . for wings sliding horizontally more or less in their own plane
- 15/0604 . . {allowing an additional movement ([E05D 15/10 takes precedence](#); raising wings before sliding [E05D 15/565](#))}
- 15/0608 . . . {caused by track lay-out}
- 15/0613 . . . . {with multi-directional trolleys}
- 15/0617 . . {of cantilever type}
- 15/0621 . . {Details, e.g. suspension or supporting guides ([E05D 15/0604](#), [E05D 15/08](#) - [E05D 15/14 take precedence](#))}
- 15/0626 . . . {for wings suspended at the top}
- 15/063 . . . . {on wheels with fixed axis}
- 15/0634 . . . . . {with height adjustment}
- 15/0639 . . . . . {by vertical bolts}
- 15/0643 . . . . {on balls or floating rollers}
- 15/0647 . . . . {on sliding blocks}
- 15/0652 . . . . {Tracks ([E05D 15/063](#) - [E05D 15/0647](#) and [E05D 15/0656 take precedence](#))}
- 15/0656 . . . . {Bottom guides}
- 15/066 . . . {for wings supported at the bottom}
- 15/0665 . . . . {on wheels with fixed axis}
- 15/0669 . . . . . {with height adjustment}
- 15/0673 . . . . . {by vertical bolts}
- 15/0678 . . . . {on balls or floating rollers}
- 15/0682 . . . . {on sliding blocks}
- 15/0686 . . . . {Tracks ([E05D 15/0665](#) - [E05D 15/0682](#) and [E05D 15/0691 take precedence](#))}
- 15/0691 . . . . {Top guides}
- 2015/0695 . . . {Magnetic suspension or supporting means}
- 15/08 . . consisting of two or more independent parts movable each in its own guides
- 15/10 . . movable out of one plane into a second parallel plane
- 15/1002 . . . {specially adapted for use in railway-cars or mass transit vehicles ([E05D 15/1007](#), [E05D 15/1023](#), [E05D 15/1044](#), [E05D 15/1068 take precedence](#))}
- 15/1005 . . . {the wing being supported on arms movable in horizontal planes}
- 15/1007 . . . . {specially adapted for use in railway-cars or mass transit vehicles}
- 15/101 . . . . {specially adapted for vehicles ([E05D 15/1007 takes precedence](#))}
- 15/1013 . . . . {specially adapted for windows}
- 15/1015 . . . . . {with an intermediate tilt position}
- 2015/1018 . . . {with the track rotating around its axis}
- 15/1021 . . . {involving movement in a third direction, e.g. vertically}

- 15/1023 . . . . {specially adapted for use in railway-cars or mass transit vehicles}
- 2015/1026 . . . {accessories, e.g. sliding or rolling guides, latches}
- 2015/1028 . . . {with only the wing moving transversely}
- 2015/1031 . . . . {the wing supported on arms extending from the carriage}
- 2015/1034 . . . . . {the carriage having means for preventing rotation of the wing}
- 2015/1036 . . . . . {the arms being movable in vertical, e.g. transverse, planes}
- 2015/1039 . . . . {the wing sliding transversely on the carriage}
- 15/1042 . . . {with transversely moving carriage  
([E05D 15/1065](#) takes precedence)}
- 15/1044 . . . . {specially adapted for use in railway-cars or mass transit vehicles}
- 15/1047 . . . . {specially adapted for vehicles  
([E05D 15/1044](#) takes precedence)}
- 2015/1049 . . . . {the carriage swinging or rotating in a transverse plane}
- 2015/1052 . . . . {transversely over-dimensioned track sections or carriage}
- 2015/1055 . . . . {with slanted or curved track sections or cams}
- 2015/1057 . . . . . {the carriage swinging or rotating in those track sections}
- 2015/106 . . . . {transversely orientated track sections}
- 2015/1063 . . . . {disconnecting the carriage from the track}
- 15/1065 . . . {with transversely moving track}
- 15/1068 . . . . {specially adapted for use in railway-cars or mass transit vehicles}
- 2015/1071 . . . . {the track being directly linked to the fixed frame, e.g. slidingly}
- 2015/1073 . . . . . {rocking transversely}
- 2015/1076 . . . . . {swinging transversely, e.g. on arms}
- 2015/1078 . . . . . {swinging or rotating in a horizontal plane}
- 15/1081 . . . . {specially adapted for vehicles  
([E05D 15/1068](#) takes precedence)}
- 2015/1084 . . . . {the carriage being directly linked to the fixed frame, e.g. slidingly}
- 2015/1086 . . . . . {swingingly, e.g. on arms}
- 2015/1089 . . . . . {the carriage having means for preventing rotation of the wing}
- 2015/1092 . . . . . {the carriage swinging or rotating in curved track sections}
- 2015/1094 . . . . . {disconnecting itself from the track}
- 2015/1097 . . . . {with the carriage and track forming a telescopic element}
- 15/12 . . . consisting of parts connected at their edges
- 15/14 . . . with movable arms situated in the plane of the wing
- 15/16 . . . for wings sliding vertically more or less in their own plane
- 15/165 . . . {Details, e.g. sliding or rolling guides  
([E05D 15/18](#) - [E05D 15/24](#) take precedence)}
- 15/18 . . . consisting of two or more independent parts, movable each in its own guides
- 15/20 . . . movable out of one plane into a second parallel plane
- 15/22 . . . allowing an additional movement {([E05D 15/20](#) takes precedence)}
- 2015/225 . . . {specially adapted for overhead wings}
- 15/24 . . . consisting of parts connected at their edges
- 15/242 . . . {Hinge connections between the parts}
- 15/244 . . . {Upper part guiding means}
- 15/246 . . . . {with additional guide rail for producing an additional movement}
- 15/248 . . . . {with lever arms for producing an additional movement}
- 15/26 . . . for folding wings
- 15/262 . . . {folding vertically}
- 15/264 . . . {for bi-fold wings}
- 15/266 . . . {comprising two pivots placed at opposite edges of the wing}
- 2015/268 . . . {the wings being successively folded}
- 15/28 . . . supported on arms movable in horizontal plane
- 15/30 . . . with pivoted arms and sliding guides
- 15/32 . . . with two pairs of pivoted arms
- 15/34 . . . with wings opening parallel to themselves
- 15/36 . . . moving along slide-ways so arranged that one guide-member of the wing moves in a direction substantially perpendicular to the movement of another guide member
- 15/38 . . . for upwardly-moving wings, e.g. up-and-over doors
- 15/40 . . . supported on arms movable in vertical planes
- 15/401 . . . {specially adapted for overhead wings  
([E05D 15/403](#) - [E05D 15/46](#) take precedence)}
- 15/403 . . . {with arms fixed on the wing pivoting about an axis outside the wing}
- 15/405 . . . {with curved arms fixed on the wing, rolling on a support}
- 15/406 . . . {with pivoted arms and sliding guides  
([E05D 15/42](#), [E05D 15/44](#) take precedence)}
- 15/408 . . . {with sliding guides fixed to the wing}
- 15/42 . . . with pivoted arms and horizontally-sliding guides
- 15/425 . . . {specially adapted for overhead wings}
- 15/44 . . . with pivoted arms and vertically-sliding guides
- 15/445 . . . {specially adapted for overhead wings}
- 15/46 . . . with two pairs of pivoted arms
- 15/463 . . . {specially adapted for overhead wings}
- 15/466 . . . {specially adapted for windows}
- 15/48 . . . allowing alternative movements {([E05D 15/0604](#) takes precedence) ; for vertically-sliding wings  
[E05D 15/22](#)}
- 2015/482 . . . {for panic doors}
- 2015/485 . . . {Swinging or sliding movements}
- 2015/487 . . . {Tilting or swinging movements}
- 15/50 . . . for opening at either of two opposite edges  
{(hinges or pivots of special construction to allow easy separation or connection of the parts at the hinge axis [E05D 7/10](#); to allow easy detachment of the hinge from the wing or the frame [E05D 7/12](#))}
- 15/502 . . . {by axial separation of the hinge parts at the hinge axis}
- 15/505 . . . {by radial separation of the hinge parts at the hinge axis}
- 15/507 . . . {by detachment of the hinge from the wing or the frame}
- 15/52 . . . for opening about a vertical as well as a horizontal axis
- 15/5202 . . . {with non-horizontally extending checks}
- 15/5205 . . . {with horizontally-extending checks}

- 15/5208 . . . {with means for transmitting movements between vertical and horizontal sliding bars, rods or cables}
- 15/5211 . . . {Concealed suspension fittings}
- 15/5214 . . . {Corner supports}
- 15/5217 . . . {Tilt-lock devices}
- 15/522 . . . with disconnecting means for the appropriate pivoting parts
- 15/523 . . . . using movable rods
- 15/524 . . . . . Actuating mechanisms
- 15/526 . . . Safety devices {(E05D 15/5217 takes precedence)}
- 2015/5263 . . . . {acting parallel to the plane of the wing}
- 2015/5266 . . . . {acting perpendicular to the plane of the wing}
- 15/54 . . for opening both inwards and outwards
- 15/56 . with successive different movements {(raising wings before being turned E05F 7/02)}
- 15/565 . . {for raising wings before sliding}
- 15/58 . . with both swinging and sliding movements
- 15/581 . . . {the swinging axis laying in the sliding direction (E05D 15/1015 takes precedence)}
- 15/582 . . . {with horizontal swinging axis (E05D 15/581 takes precedence)}
- 15/583 . . . . {specially adapted for overhead wings}
- 2015/585 . . . {with stationary hinge parts}
- 2015/586 . . . {with travelling hinge parts}
- 2015/587 . . . {with axially separating hinge parts}
- 2015/588 . . . {with radially separating hinge parts}
- 2700/00 Hinges or other suspension devices especially for doors or windows**
- 2700/02 . Hinges with one pivot axis and one bearing surface
- 2700/04 . Hinges with one pivot axis and more than one bearing surface
- 2700/10 . Various door and window fittings, e.g. suspension devices for double hung windows or screens
- 2700/12 . Suspension devices for doors or windows movable in a direction perpendicular to their plane or pivotable about an axis being situated at a considerable distance from the edge of the wing by means of pivot arms