

# CPC COOPERATIVE PATENT CLASSIFICATION

## E FIXED CONSTRUCTIONS

### BUILDING

#### E05 LOCKS; KEYS; WINDOW OR DOOR FITTINGS; SAFES

(NOTE omitted)

#### E05F DEVICES FOR MOVING WINGS INTO OPEN OR CLOSED POSITION; CHECKS FOR WINGS; WING FITTINGS NOT OTHERWISE PROVIDED FOR, CONCERNED WITH THE FUNCTIONING OF THE WING

##### NOTE

In this subclass, the following terms are used with the meanings indicated:

- "closer" or "opener" includes devices for assisting wing-movement or for wing-counterbalancing.

##### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<b>1/00</b>	<b>Closers or openers for wings, not otherwise provided for in this subclass</b>	1/1041	. . . {with a coil spring perpendicular to the pivot axis ( <a href="#">E05F 1/1246</a> takes precedence)}
1/002	. {controlled by automatically acting means (for powered-operated mechanisms <a href="#">E05F 15/70</a> )}	1/105	. . . . {with a compression spring}
1/004	. . {by thermostats, rain, wind or noise ( <a href="#">E05F 1/006</a> takes precedence)}	1/1058	. . . . . {for counterbalancing}
1/006	. . {by emergency conditions, e.g. fire (operating or controlling mechanisms for physical fire-barriers <a href="#">A62C 2/24</a> )}	1/1066	. . . . . {with a traction spring}
1/008	. . {by time control}	1/1075	. . . . . {for counterbalancing}
1/02	. gravity-actuated {, e.g. by use of counterweights}	1/1083	. . . {with a leaf or similar spring ( <a href="#">E05F 1/1284</a> takes precedence)}
1/025	. . {with rectilinearly-moving counterweights}	1/1091	. . . {with a gas spring ( <a href="#">E05F 1/1292</a> takes precedence)}
1/04	. . for wings which lift during movement {, operated by their own weight}	1/12	. . . Mechanisms in the shape of hinges or pivots, operated by springs {(for hinges with two or more pins <a href="#">E05D 3/06</a> )}
1/043	. . . {with cams, helical tracks ( <a href="#">E05F 1/061</a> takes precedence)}	1/1207	. . . . {with a coil spring parallel with the pivot axis}
1/046	. . . {with rectilinearly-inclined tracks for sliding wings}	1/1215	. . . . . {with a canted-coil torsion spring}
1/06	. . . Mechanisms in the shape of hinges or pivots, operated by the weight of the wing	1/1223	. . . . . {with a compression or traction spring}
1/061	. . . . {with cams or helical tracks}	1/123	. . . . . {with a torsion bar}
1/063	. . . . . {with complementary, substantially identical and slidingly cooperating cam surfaces ( <a href="#">E05F 1/066</a> takes precedence)}	1/1238	. . . . . {specially adapted for vehicles}
1/065	. . . . . {Cam-and-wheel arrangements}	1/1246	. . . . . {with a coil spring perpendicular to the pivot axis}
1/066	. . . . . {Helical grooves, slots, threads or the like}	1/1253	. . . . . {with a compression spring}
1/068	. . . . . {with inclined pivot-axes}	1/1261	. . . . . {for counterbalancing}
1/08	. spring-actuated {, e.g. for horizontally sliding wings (counterbalancing sliding or lifting wings <a href="#">E05D</a> ; springs per se <a href="#">F16F</a> , e.g. gas-springs <a href="#">F16F 9/00</a> )}	1/1269	. . . . . {with a traction spring}
1/10	. . for swinging wings {, e.g. counterbalance (spring-assisted actuation of lids or covers of refuse receptacles <a href="#">B65F 1/1623</a> )}	1/1276	. . . . . {for counterbalancing}
1/1008	. . . {with a coil spring parallel with the pivot axis ( <a href="#">E05F 1/1207</a> takes precedence)}	1/1284	. . . . . {with a leaf or similar spring}
1/1016	. . . . {with a canted-coil torsion spring}	1/1292	. . . . . {with a gas spring}
1/1025	. . . . {with a compression or traction spring}	1/14	. . . with double-acting springs, e.g. for closing and opening or checking and closing {no material}
1/1033	. . . {with a torsion bar ( <a href="#">E05F 1/123</a> takes precedence)}	1/16	. . for sliding wings
		<b>3/00</b>	<b>Closers or openers with braking devices, e.g. checks; Construction of pneumatic or liquid braking devices (construction of non-pneumatic or non-liquid braking devices <a href="#">E05F 5/00</a>; friction devices in hinges <a href="#">E05D 11/08</a>)</b>
		3/02	. with pneumatic piston brakes (rotary type <a href="#">E05F 3/14</a> )
		3/04	. with liquid piston brakes (rotary type <a href="#">E05F 3/14</a> )

- 3/06 . . in which a torsion spring rotates a member around an axis perpendicular to the axis of the piston
  - 3/08 . . in which a torsion spring rotates a member around an axis arranged in the direction of the axis of the piston
  - 3/10 . . with a spring, other than a torsion spring, and a piston, the axes of which are the same or lie in the same direction
  - 3/102 . . . {with rack-and-pinion transmission between driving shaft and piston within the closer housing}
  - 3/104 . . . {with cam-and-slide transmission between driving shaft and piston within the closer housing}
  - 3/106 . . . {with crank-arm transmission between driving shaft and piston within the closer housing}
  - 3/108 . . . {with piston rod protruding from the closer housing; Telescoping closers}
  - 3/12 . . Special devices controlling the circulation of the liquid, e.g. valve arrangement ([E05F 3/223](#) takes precedence); valves *per se* [F16K](#))
  - 3/14 . with fluid brakes of the rotary type
  - 3/16 . with friction brakes
  - 3/18 . with counteracting springs ([double-acting springs E05F 1/14](#))
  - 3/20 . in hinges
  - 3/22 . Additional arrangements for closers, e.g. for holding the wing in opened or other position
  - 3/221 . . {Mechanical power-locks, e.g. for holding the wing open or for free-moving zones}
  - 3/222 . . . {electrically operated ([E05F 3/223](#) takes precedence)}
  - 3/223 . . {Hydraulic power-locks, e.g. with electrically operated hydraulic valves}
  - 3/224 . . {for assisting in opening the wing}
  - 3/225 . . {mounted at the bottom of wings, e.g. details related to seals, covers, connections to the wings, embedding in the floor}
  - 3/226 . . . {with means to adjust the closed position of the wing}
  - 3/227 . . {mounted at the top of wings, e.g. details related to closer housings, covers, end caps or rails therefor}
  - 2003/228 . . {Arrangements where the end of the closer arm is sliding in a track}
- 5/00 Braking devices, e.g. checks; Stops; Buffers**  
(construction of pneumatic or liquid braking devices [E05F 3/00](#); braking devices, buffers or end stops on drawers for tables, cabinets or like furniture [A47B 88/473](#); combined with devices for holding wings open [E05C 17/00](#); devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing [E05C 17/04](#))
- WARNING**
- Group [E05F 5/00](#) is impacted by reclassification into groups [A47B 88/473](#) and [A47B 88/477](#).  
Groups [E05F 5/00](#), [A47B 88/473](#), and [A47B 88/477](#) should be considered in order to perform a complete search.
- 5/003 . {for sliding wings ([E05D 13/04](#) takes precedence)}
  - 5/006 . {for hinges having a cup-shaped fixing part, e.g. for attachment to cabinets or furniture}
  - 5/02 . specially for preventing the slamming of {swinging} wings {during final closing movement, e.g. jamb stops}
  - 5/022 . . {specially adapted for vehicles, e.g. for hoods or trunks}
  - 5/025 . . . {specially adapted for vehicle doors}
  - 5/027 . . {with closing action}
  - 5/04 . . hand-operated {, e.g. removable}; operated by centrifugal action {or by high closing speed}
  - 2005/043 . . . {operated by centrifugal action at high closing speed}
  - 2005/046 . . . {hand operated}
  - 5/06 . Buffers {or stops limiting opening of swinging wings, e.g. floor or wall stops} ([E05F 5/02](#) takes precedence)
  - 5/08 . . with springs
  - 5/10 . . with piston brakes
  - 5/12 . specially for preventing the closing of a wing before another wing has been closed
- 7/00 Miscellaneous accessories for wings** (specially adapted for furniture [A47B 95/00](#); door-lifters [B66F, E04F 21/00](#); knobs or handles [E05B](#))
- 7/005 . {Aligning devices for wings}
  - 7/02 . for raising wings before being turned {(before sliding [E05D 15/565](#))}
  - 7/04 . Arrangements affording protection against rattling (with buffering action [E05F 5/00](#))
  - 7/06 . Devices for taking the weight of the wing, arranged away from the hinge axis
  - 7/08 . Special means for transmitting movements between vertical and horizontal sliding bars, rods, or cables ([E05D 15/5208](#) takes precedence)
- Operating mechanisms for wings** (for safeguarding bank teller windows [E05G 5/00](#); for interconnected louvres [E06B 7/086](#); for blinds or roll-type closures [E06B 9/00](#))
- 9/00 **Means for operating wings by hand rods not guided in or on the frame, including those which also operate the fastening** (bolts or fastening devices for wings [E05C](#))
  - 11/00 **Man-operated mechanisms for operating wings, including those which also operate the fastening** (connecting mechanisms for a plurality of wings [E05F 17/00](#))
  - 11/02 . for wings in general, e.g. fanlights ([E05F 11/36](#) takes precedence; for windows to be lowered vertically [E05F 11/38](#); for doors [E05F 11/54](#))
  - 11/04 . . with cords, chains or cables
  - 11/06 . . . in guide-channels
  - 11/08 . . with longitudinally-moving bars guided, e.g. by pivoted links, in or on the frame
  - 11/10 . . . Mechanisms by which a handle moves the bar
  - 11/12 . . . Mechanisms by which the bar shifts the wing
  - 11/14 . . . . directly, i.e. without links, shifting the wing, e.g. by rack and gear or pin and slot
  - 11/145 . . . . . {by pin and slot}
  - 11/16 . . . . shifting the wing by pivotally-connected members {(moving) in a plane perpendicular to the pivot axis of the wing}

- 11/18 . . . . . consisting of a lever, e.g. an angle lever, only {no material}
- 11/20 . . . . . consisting of a lever, e.g. an angle lever, and only one additional link {no material}
- 11/22 . . . . . consisting of a lever, e.g. an angle lever, and two or more additional links in series {no material}
- 11/24 . . . . . shifting the wing by pivotally-connected members {(moving) in a plane parallel to the pivot axis of the wing}
- 11/26 . . . . . consisting of a lever, e.g. an angle lever, only {no material}
- 11/28 . . . . . consisting of a lever, e.g. an angle lever, and one or more additional links {no material}
- 11/30 . . . . . consisting of links in rhomb-form {no material}
- 11/32 . . with rotary bars guided in the frame (E05F 11/34 takes precedence)
- 11/34 . . with screw mechanisms
- 11/36 . specially designed for passing through a wall
- 11/38 . for sliding windows, e.g. vehicle windows, to be opened or closed by vertical movement
- 11/382 . . {for vehicle windows (E05F 11/40 - E05F 11/52 take precedence)}
- 11/385 . . . {Fixing of window glass to the carrier of the operating mechanism}
- 2011/387 . . . . . {using arrangements in the window glass, e.g. holes}
- 11/40 . . operated by screw mechanism
- 11/405 . . . {for vehicle windows}
- 11/42 . . operated by rack bars and toothed wheels {or other push-pull mechanisms}
- 11/423 . . . {for vehicle windows}
- 11/426 . . . . . {Flexible rack-and-pinion arrangements}
- 11/44 . . operated by one or more lifting arms
- 11/445 . . . {for vehicle windows}
- 11/46 . . operated by lazy-tongs mechanism
- 11/465 . . . {for vehicle windows}
- 11/48 . . operated by cords or chains {or other flexible elongated pulling elements, e.g. tapes}
- 11/481 . . . {for vehicle windows}
- 11/483 . . . . . {by cables}
- 11/485 . . . . . {with cable tensioners}
- 11/486 . . . . . {with one cable connection to the window glass}
- 11/488 . . . . . {with two cable connections to the window glass}
- 11/50 . . Crank gear with clutches or retaining brakes, for operating window mechanisms
- 11/505 . . . {for vehicle windows}
- 11/52 . . combined with means for producing an additional movement, e.g. a horizontal or a rotary movement
- 11/525 . . . {for vehicle windows}
- 11/53 . for sliding windows, e.g. vehicle windows, to be opened or closed by horizontal movement
- 11/535 . . {for vehicle windows}
- 11/54 . for doors
- 13/00 Mechanisms operated by the movement or weight of a person or vehicle (through power-operated wing-operating mechanisms E05F 15/00)**
- 13/02 . by devices, e.g. lever arms, affected by the movement of the user
- 13/04 . by platforms lowered by the weight of the user
- 15/00 Power-operated mechanisms for wings (motor-operated accessories in locks for completing closing or initiating opening of a wing E05B 17/00)**
- 15/40 . Safety devices, e.g. detection of obstructions or end positions
- 15/41 . . Detection by monitoring transmitted force or torque (E05F 15/48 takes precedence); Safety couplings with activation dependent upon torque or force, e.g. slip couplings
- 15/42 . . Detection using safety edges
- 15/43 . . . responsive to disruption of energy beams, e.g. light or sound
- 15/431 . . . . . {specially adapted for vehicle windows or roofs}
- 2015/432 . . . . . {with acoustical sensors}
- 2015/433 . . . . . {using reflection from the obstruction}
- 2015/434 . . . . . {with optical sensors}
- 2015/435 . . . . . {by interruption of the beam}
- 2015/436 . . . . . {the beam being parallel to the wing edge}
- 2015/437 . . . . . {the beam being perpendicular to the wing edge}
- 15/44 . . . responsive to changes in electrical conductivity
- 15/443 . . . . . {specially adapted for vehicle windows or roofs}
- 2015/447 . . . . . {using switches in serial arrangement}
- 15/46 . . . responsive to changes in electrical capacitance
- 15/47 . . . responsive to changes in fluid pressure
- 15/48 . . . by transmission of mechanical forces, e.g. rigid or movable members
- 2015/483 . . . {for detection during opening}
- 2015/487 . . . {Fault detection of safety edges}
- 15/49 . . specially adapted for mechanisms operated by fluid pressure, e.g. detection by monitoring transmitted fluid pressure (E05F 15/47 takes precedence)
- 15/50 . using fluid-pressure actuators
- 15/51 . . for folding wings
- 15/53 . . for swinging wings
- 15/54 . . . operated by linear actuators acting on a helical track coaxial with the swinging axis
- 15/56 . . for horizontally-sliding wings
- 15/565 . . . {for railway-cars}
- 15/57 . . for vertically-sliding wings
- 15/59 . . . for overhead wings
- 15/60 . using electrical actuators
- 15/603 . . using rotary electromotors
- 15/605 . . . for folding wings
- 15/608 . . . for revolving wings
- 15/611 . . . for swinging wings
- 15/614 . . . . . operated by meshing gear wheels, one of which being mounted at the wing pivot axis; operated by a motor acting directly on the wing pivot axis
- 15/616 . . . . . operated by push-pull mechanisms
- 15/619 . . . . . using flexible or rigid rack-and-pinion arrangements
- 15/622 . . . . . using screw-and-nut mechanisms
- 15/624 . . . . . using friction wheels

- 15/627 . . . . operated by flexible elongated pulling elements, e.g. belts, chains or cables ([using flexible elongated push-pull mechanisms E05F 15/619](#))
- 15/63 . . . . operated by swinging arms
- 2015/631 . . . . {the end of the arm sliding in a track; Slider arms therefor}
- 15/632 . . . for horizontally-sliding wings
- WARNING**
- Group [E05F 15/632](#) is incomplete pending reclassification of documents from group [E05F 15/652](#).
- Groups [E05F 15/652](#) and [E05F 15/632](#) should be considered in order to perform a complete search.
- 15/635 . . . . operated by push-pull mechanisms, e.g. flexible or rigid rack-and-pinion arrangements ([E05F 15/652](#) takes precedence)
- 15/638 . . . . allowing or involving a secondary movement of the wing, e.g. rotational or transversal
- 15/641 . . . . operated by friction wheels
- WARNING**
- Group [E05F 15/641](#) is incomplete pending reclassification of documents from group [E05F 15/635](#).
- Groups [E05F 15/635](#) and [E05F 15/641](#) should be considered in order to perform a complete search.
- 15/643 . . . . operated by flexible elongated pulling elements, e.g. belts, chains or cables ([by flexible elongated push-pull mechanisms E05F 15/635](#))
- 15/646 . . . . allowing or involving a secondary movement of the wing, e.g. rotational or transversal
- 15/649 . . . . operated by swinging arms
- 15/652 . . . . operated by screw-and-nut mechanisms
- 15/655 . . . . specially adapted for vehicle wings
- WARNING**
- Groups [E05F 15/655](#) - [E05F 15/662](#) are incomplete pending reclassification of documents from group [E05F 15/632](#).
- Group [E05F 15/632](#) and the appropriate group in [E05F 15/655](#) - [E05F 15/662](#) should be considered in order to perform a complete search.
- 15/657 . . . . enabling manual drive, e.g. in case of power failure
- 15/659 . . . . Control circuits therefor
- 15/662 . . . . Motor units therefor, e.g. geared motors
- 15/665 . . . for vertically-sliding wings
- 15/668 . . . . for overhead wings
- WARNING**
- Group [E05F 15/668](#) is incomplete pending reclassification of documents from group [E05F 15/673](#).
- Groups [E05F 15/673](#) and [E05F 15/668](#) should be considered in order to perform a complete search.
- 15/67 . . . . operated by flexible or rigid rack-and-pinion arrangements
- 15/673 . . . . operated by screw-and-nut mechanisms
- 15/676 . . . . operated by friction wheels
- 15/678 . . . . operated by swinging lever arms
- 15/681 . . . . operated by flexible elongated pulling elements, e.g. belts
- 15/684 . . . . . by chains
- 15/686 . . . . . by cables or ropes
- 15/689 . . . . specially adapted for vehicle windows
- 15/692 . . . . enabling manual drive, e.g. in case of power failure
- 15/695 . . . . Control circuits therefor
- 15/697 . . . . Motor units therefor, e.g. geared motors
- 15/70 . . with automatic actuation
- 15/71 . . responsive to temperature changes, rain, wind or noise
- 15/72 . . responsive to emergency conditions, e.g. fire
- 15/73 . . responsive to movement or presence of persons or objects
- 15/74 . . . using photoelectric cells
- 15/75 . . . responsive to the weight or other physical contact of a person or object
- 15/76 . . . responsive to devices carried by persons or objects, e.g. magnets or reflectors ([E05F 15/77](#) takes precedence)
- 2015/763 . . . {using acoustical sensors}
- 2015/765 . . . {using optical sensors ([using photoelectric cells E05F 15/74](#))}
- 2015/767 . . . {using cameras}
- 15/77 . . using wireless control
- 15/78 . . . using light beams
- 15/79 . . using time control
- 17/00 Special devices for shifting a plurality of wings operated simultaneously (for simultaneously moving a plurality of interconnected ventilating lamellae E06B 7/086)**
- 17/001 . . {of prison cell doors}
- 17/002 . . {for wings which lie one behind the other when closed}
- 17/004 . . {for wings which abut when closed}
- 2017/005 . . {for sliding wings}
- 2017/007 . . {with means for interlocking the wings}
- 2017/008 . . {for swinging wings}
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- 2700/00 Operating mechanisms for sliding windows**
- 2700/02 . . Devices for moving and locking sliding windows
- 2700/04 . . Devices for blocking sliding windows in general