

# 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>	<b>1/1041</b>	. . . {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 <a href="#">powered-operated mechanisms 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	5/006	. {for hinges having a cup-shaped fixing part, e.g. for attachment to cabinets or furniture}
3/08	. . in which a torsion spring rotates a member around an axis arranged in the direction of the axis of the piston	5/02	. specially for preventing the slamming of {swinging} wings {during final closing movement, e.g. jamb stops}
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	5/022	. . {specially adapted for vehicles, e.g. for hoods or trunks}
3/102	. . . {with rack-and-pinion transmission between driving shaft and piston within the closer housing}	5/025	. . . {specially adapted for vehicle doors}
3/104	. . . {with cam-and-slide transmission between driving shaft and piston within the closer housing}	5/027	. . {with closing action}
3/106	. . . {with crank-arm transmission between driving shaft and piston within the closer housing}	5/04	. . hand-operated {, e.g. removable}; operated by centrifugal action {or by high closing speed}
3/108	. . . {with piston rod protruding from the closer housing; Telescoping closers}	2005/043	. . . {operated by centrifugal action at high closing speed}
3/12	. . Special devices controlling the circulation of the liquid, e.g. valve arrangement ({E05F 3/223 takes precedence}; valves <a href="#">per se F16K</a> )	2005/046	. . . {hand operated}
3/14	. with fluid brakes of the rotary type	5/06	. Buffers {or stops limiting opening of swinging wings, e.g. floor or wall stops} ( <a href="#">E05F 5/02 takes precedence</a> )
3/16	. with friction brakes	5/08	. . with springs
3/18	. with counteracting springs ( <a href="#">double-acting springs E05F 1/14</a> )	5/10	. . with piston brakes
3/20	. in hinges	5/12	. specially for preventing the closing of a wing before another wing has been closed
3/22	. Additional arrangements for closers, e.g. for holding the wing in opened or other position	7/00	<b>Miscellaneous accessories for wings</b> ( <a href="#">specially adapted for furniture A47B 95/00</a> ; <a href="#">door-lifters B66F, E04F 21/00</a> ; <a href="#">knobs or handles E05B</a> )
3/221	. . {Mechanical power-locks, e.g. for holding the wing open or for free-moving zones}	7/005	. {Aligning devices for wings}
3/222	. . . {electrically operated ( <a href="#">E05F 3/223 takes precedence</a> )}	7/02	. for raising wings before being turned {(before sliding <a href="#">E05D 15/565</a> )}
3/223	. . {Hydraulic power-locks, e.g. with electrically operated hydraulic valves}	7/04	. Arrangements affording protection against rattling ( <a href="#">with buffering action E05F 5/00</a> )
3/224	. . {for assisting in opening the wing}	7/06	. Devices for taking the weight of the wing, arranged away from the hinge axis
3/225	. . {mounted at the bottom of wings, e.g. details related to seals, covers, connections to the wings, embedding in the floor}	7/08	. Special means for transmitting movements between vertical and horizontal sliding bars, rods, or cables ({ <a href="#">E05D 15/5208 takes precedence</a> })
3/226	. . . {with means to adjust the closed position of the wing}	<b>Operating mechanisms for wings</b> ( <a href="#">for safeguarding bank teller windows E05G 5/00</a> ; <a href="#">for interconnected louvres E06B 7/086</a> ; <a href="#">for blinds or roll-type closures E06B 9/00</a> )	
3/227	. . {mounted at the top of wings, e.g. details related to closer housings, covers, end caps or rails therefor}	9/00	<b>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 <a href="#">E05C</a>)</b>
2003/228	. . {Arrangements where the end of the closer arm is sliding in a track}	11/00	<b>Man-operated mechanisms for operating wings, including those which also operate the fastening (connecting mechanisms for a plurality of wings <a href="#">E05F 17/00</a>)</b>
5/00	<b>Braking devices, e.g. checks; Stops; Buffers</b> (construction of pneumatic or liquid braking devices <a href="#">E05F 3/00</a> ; braking devices, buffers or end stops on drawers for tables, cabinets or like furniture <a href="#">A47B 88/473</a> ; combined with devices for holding wings open <a href="#">E05C 17/00</a> ; devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing <a href="#">E05C 17/04</a> )	11/02	. for wings in general, e.g. fanlights ( <a href="#">E05F 11/36 takes precedence</a> ; for windows to be lowered vertically <a href="#">E05F 11/38</a> ; for doors <a href="#">E05F 11/54</a> )
	<b>WARNING</b>	11/04	. . with cords, chains or cables
	Group <a href="#">E05F 5/00</a> is impacted by reclassification into groups <a href="#">A47B 88/473</a> and <a href="#">A47B 88/477</a> .	11/06	. . . in guide-channels
	Groups <a href="#">E05F 5/00</a> , <a href="#">A47B 88/473</a> , and <a href="#">A47B 88/477</a> should be considered in order to perform a complete search.	11/08	. . with longitudinally-moving bars guided, e.g. by pivoted links, in or on the frame
5/003	. {for sliding wings ( <a href="#">E05D 13/04 takes precedence</a> )}	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}	13/04	. . . . . by platforms lowered by the weight of the user
11/20	. . . . . consisting of a lever, e.g. an angle lever, and only one additional link {no material}	15/00	<b>Power-operated mechanisms for wings (motor-operated accessories in locks for completing closing or initiating opening of a wing E05B 17/00)</b>
11/22	. . . . . consisting of a lever, e.g. an angle lever, and two or more additional links in series {no material}	15/40	. . . . . Safety devices, e.g. detection of obstructions or end positions
11/24	. . . . . shifting the wing by pivotally-connected members {(moving) in a plane parallel to the pivot axis of the wing}	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
11/26	. . . . . consisting of a lever, e.g. an angle lever, only {no material}	15/42	. . . . . Detection using safety edges
11/28	. . . . . consisting of a lever, e.g. an angle lever, and one or more additional links {no material}	15/43	. . . . . responsive to disruption of energy beams, e.g. light or sound
11/30	. . . . . consisting of links in rhomb-form {no material}	15/431	. . . . . {specially adapted for vehicle windows or roofs}
11/32	. . . . . with rotary bars guided in the frame (E05F 11/34 takes precedence)	2015/432	. . . . . {with acoustical sensors}
11/34	. . . . . with screw mechanisms	2015/433	. . . . . {using reflection from the obstruction}
11/36	. . . . . specially designed for passing through a wall	2015/434	. . . . . {with optical sensors}
11/38	. . . . . for sliding windows, e.g. vehicle windows, to be opened or closed by vertical movement	2015/435	. . . . . {by interruption of the beam}
11/382	. . . . . {for vehicle windows (E05F 11/40 - E05F 11/52 take precedence)}	2015/436	. . . . . {the beam being parallel to the wing edge}
11/385	. . . . . {Fixing of window glass to the carrier of the operating mechanism}	2015/437	. . . . . {the beam being perpendicular to the wing edge}
2011/387	. . . . . {using arrangements in the window glass, e.g. holes}	15/44	. . . . . responsive to changes in electrical conductivity
11/40	. . . . . operated by screw mechanism	15/443	. . . . . {specially adapted for vehicle windows or roofs}
11/405	. . . . . {for vehicle windows}	2015/447	. . . . . {using switches in serial arrangement}
11/42	. . . . . operated by rack bars and toothed wheels {or other push-pull mechanisms}	15/46	. . . . . responsive to changes in electrical capacitance
11/423	. . . . . {for vehicle windows}	15/47	. . . . . responsive to changes in fluid pressure
11/426	. . . . . {Flexible rack-and-pinion arrangements}	15/48	. . . . . by transmission of mechanical forces, e.g. rigid or movable members
11/44	. . . . . operated by one or more lifting arms	2015/483	. . . . . {for detection during opening}
11/445	. . . . . {for vehicle windows}	2015/487	. . . . . {Fault detection of safety edges}
11/46	. . . . . operated by lazy-tongs mechanism	15/49	. . . . . specially adapted for mechanisms operated by fluid pressure, e.g. detection by monitoring transmitted fluid pressure (E05F 15/47 takes precedence)
11/465	. . . . . {for vehicle windows}	15/50	. . . . . using fluid-pressure actuators
11/48	. . . . . operated by cords or chains {or other flexible elongated pulling elements, e.g. tapes}	15/51	. . . . . for folding wings
11/481	. . . . . {for vehicle windows}	15/53	. . . . . for swinging wings
11/483	. . . . . {by cables}	15/54	. . . . . operated by linear actuators acting on a helical track coaxial with the swinging axis
11/485	. . . . . {with cable tensioners}	15/56	. . . . . for horizontally-sliding wings
11/486	. . . . . {with one cable connection to the window glass}	15/565	. . . . . {for railway-cars}
11/488	. . . . . {with two cable connections to the window glass}	15/57	. . . . . for vertically-sliding wings
11/50	. . . . . Crank gear with clutches or retaining brakes, for operating window mechanisms	15/59	. . . . . for overhead wings
11/505	. . . . . {for vehicle windows}	15/60	. . . . . using electrical actuators
11/52	. . . . . combined with means for producing an additional movement, e.g. a horizontal or a rotary movement	15/603	. . . . . using rotary electromotors
11/525	. . . . . {for vehicle windows}	15/605	. . . . . for folding wings
11/53	. . . . . for sliding windows, e.g. vehicle windows, to be opened or closed by horizontal movement	15/608	. . . . . for revolving wings
11/535	. . . . . {for vehicle windows}	15/611	. . . . . for swinging wings
11/54	. . . . . for doors	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
13/00	<b>Mechanisms operated by the movement or weight of a person or vehicle (through power-operated wing-operating mechanisms E05F 15/00)</b>	15/616	. . . . . operated by push-pull mechanisms
13/02	. . . . . by devices, e.g. lever arms, affected by the movement of the user	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
  - 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
  - 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
  - 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
  - 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