

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

Definition statement

This subclass/group covers:

Devices for moving wings, such as doors or windows, into open or closed position; checks for wings, such as doors or windows; wing fittings not otherwise provided for, concerned with the functioning of the wing.

Gravity-, spring-, or power-operated devices to provide a force input for opening or closing wings, such as door openers and door closers, self-closing hinges and hinges with wing-counterbalancing function.

Also covered are operating mechanisms for wings constructed to convert the force input from a user, motor, opener or closer into movement of a wing, such as cable-, cord-, chain-, or belt-drives, lifting arms, rack and pinion drives or screw and nut arrangements.

The subclass furthermore covers braking devices, stops and buffers for wings as well as controlling means, such as remote wireless controls means, and safety devices such as obstruction detection devices.

Relationship between large subject matter areas

Hinges and other suspension devices for wings in [E05D](#)

Locks for doors and windows in [E05B](#) and [E05C](#)

Construction of doors, windows, gates and frames in buildings in [E06B](#)

Construction of doors, windows, and other moveable wings in vehicles in [B60J](#)

References relevant to classification in this subclass

This subclass/group does not cover:

Counterbalancing means for sliding or lifting wings	E05D 13/10
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Informative references

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

Springs per se	F16F
Electric motors per se	H02K , H02P
Operating or controlling devices for fire-barriers	A62C 2/24
Operating mechanisms for safeguarding bank teller windows	E05G 5/00
Operating mechanisms for interconnected lamellae	E06B 7/086
Operating mechanisms for blinds or roll-type closures	E06B 9/00

Special rules of classification within this subclass

Closers, openers, braking devices, stops and buffers for wings: [E05F 1/00](#), [E05F 3/00](#) and [E05F 5/00](#).

Accessories for wings: [E05F 7/00](#).

Operating mechanisms for wings: [E05F 9/00](#), [E05F 11/00](#), [E05F 13/00](#), [E05F 15/00](#) and [E05F 17/00](#).

Controlling means, such as remote wireless controls means, and safety devices such as obstruction detection devices: [E05F 15/00](#).

A number of main groups in this sub-class contain a large number of older documents that were classified administratively. These documents have not yet been reclassified to the sub-groups and are indexed with [E05Y 2800/00](#). This index should not be used for classification.

[E05F 2700/00](#) is an old indexing scheme. It can be used for search but should not be used for classification.

Under [E05Y 2900/00](#) and lower an indexing scheme exists for information on the application or use of the devices. The indexing scheme is shared with the sub-class [E05D](#).

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Braking device	Devices constructed to slow down the movement of wings
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Closer	Gravity-, spring-, or power-operated device constructed to provide a closing force to wings over a substantial part of their movement; includes devices for assisting users in wing-movement or for wing-counterbalancing; a closer can take the shape of a self-closing hinge
Opener	Gravity-, spring-, or power-operated device constructed to provide an opening force to wings over a substantial part of their movement; includes devices for assisting users in wing-movement or for wing-counterbalancing
Operating mechanism for wings	Mechanism constructed to convert force inputs from a user, motor, opener or closer into movement of wings
Self-closing hinge	Gravity- or spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
Wing	Pivotable, slideable, or otherwise moveable part of doors, windows, flaps, covers etc. in building construction and outfitting, fences, domestic appliances, vehicles and furniture; the term also includes other movable structures such as drawers, lids of chests, car boots, or car bonnets

E05F 1/00

Closers or openers for wings, not otherwise provided for in this subclass

Definition statement

This subclass/group covers:

Gravity-, or spring-operated closers or openers for wings including those in the shape of hinges, i.e. self-closing hinges.

Relationship between large subject matter areas

Power-operated door closers or openers in [E05F 15/00](#).

E05F 1/002

[N: controlled by automatically acting means (for powered-operated mechanisms E05F15/20)]

Informative references

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

Automatically acting control means for powered-operated mechanisms	E05F 15/20
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E05F 1/004

[N: by thermostats, rain, wind or noise (E05F1/006 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Automatically acting control means triggered by emergency conditions such as fire	E05F 1/006
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E05F 1/006

[N: by emergency conditions, e.g. fire (operating or controlling mechanisms for physical fire-barriers A62C2/24)]

References relevant to classification in this group

This subclass/group does not cover:

Operating or controlling mechanisms for physical fire-barriers	A62C 2/24
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E05F 1/043

[N: with cams, helical tracks (E05F1/061 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Gravity-actuated self-closing hinges with cams and helical tracks	E05F 1/061
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Gravity-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/063

[N: with complementary, substantially identical and slidingly cooperating cam surfaces (E05F1/066 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Gravity-actuated self-closing hinges with helical grooves, slots, threads or the like	E05F 1/066
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Gravity-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/08

spring-actuated, [N: e.g. for horizontally sliding wings (counterbalancing sliding or lifting wings E05D; springs per se F16F, e.g. gas-springs F16F9/00)]

Relationship between large subject matter areas

Springs per se in [F16F](#).

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated counterbalancing of sliding or lifting wings	E05D 13/12
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E05F 1/10

for swinging wings, [N: e.g. counterbalance (spring-assisted actuation of lids or covers of refuse receptacles B65F1/1623)]

Informative references

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

Spring-assisted actuation of lids or covers of refuse receptacles	B65F 1/1623
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E05F 1/1008

[N: with a coil spring parallel with the pivot axis (E05F1/1207 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated self-closing hinges with a coil spring parallel with the pivot axis	E05F 1/1207
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/1033

[N: with a torsion bar (E05F1/123 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated self-closing hinges with a torsion bar	E05F 1/123
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/1041

[N: with a coil spring perpendicular to the pivot axis (E05F1/1246 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated self-closing hinges with a coil spring perpendicular to the pivot axis	E05F 1/1246
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/1083

[N: with a leaf or similar spring (E05F1/1284 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated self-closing hinges with a leaf or similar spring	E05F 1/1284
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/1091

[N: with a gas spring (E05F1/1292 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Spring-actuated self-closing hinges	E05F 1/1292
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with a gas spring	
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Self-closing hinge	Spring-operated hinge constructed to provide a closing force to wings over a substantial part of their movement; includes devices for wing-counterbalancing
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E05F 1/12

Mechanisms in the shape of hinges or pivots, operated by springs [N: for hinges with two or more pins E05D3/06]

Informative references

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

Hinges with springs applying a holding force, e.g. a hold-closed force to hold the hinge and respective wing in an immobile closed position	E05D 11/1014
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Special rules of classification within this group

If the hinges comprises two or more pins, [E05D 3/06](#) applies in addition to [E05F 1/12](#).

Furthermore, it is noted that the group [E05F 1/12](#) contains a number of older documents that were classified administratively. These documents have not yet been reclassified to the sub-groups of [E05F 1/12](#) and are indexed with [E05Y 2800/00](#). The presence of these documents should not be construed as an indicator to classify similar documents in [E05F 1/12](#). Rather, the sub-groups always take precedence.

E05F 3/00

**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 E05F5/00; friction devices in hinges E05D11/08)

Definition statement

This subclass/group covers:

Closers and openers, including self-closing hinges, with integrated braking devices such as rotary or piston fluid brakes, friction brakes or counteracting springs.

Also covered are the construction of braking devices for such closers and openers.

Relationship between large subject matter areas

Construction of braking devices for wings in [E05F 5/00](#) and lower.

Stops and buffers for wings in [E05F 5/00](#) and lower.

References relevant to classification in this group

This subclass/group does not cover:

Friction devices in hinges to hold relatively-moveable hinge parts and consequently wings in a user-chosen position	E05D 11/08
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E05F 3/02

with pneumatic piston brakes (rotary type E05F3/14)

Informative references

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

Pneumatic piston brakes of rotary type	E05F 3/14
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E05F 3/04

with liquid piston brakes (rotary type E05F3/14)

Informative references

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

Liquid piston brakes of rotary type	E05F 3/14
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E05F 3/12

Special devices controlling the circulation of the liquid, e.g. valve arrangement ([N: E05F3/223 takes precedence]; valves per se F16K

Relationship between large subject matter areas

Valves per se in [F16K](#)

References relevant to classification in this group

This subclass/group does not cover:

Hydraulic power-locks in closers	E05F 3/223
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E05F 3/16

with friction brakes

References relevant to classification in this group

This subclass/group does not cover:

Friction devices in hinges to hold relatively-moveable hinge parts and consequently wings in a user-chosen position	E05D 11/08
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Brake	device constructed to slow down the movement of a wing
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E05F 3/18

with counteracting springs (double-acting springs E05F1/14)

Informative references

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

Double-acting springs, e.g. for closing and opening or checking and closing	E05F 1/14
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E05F 5/00

Braking devices, e.g. checks; Stops; Buffers; Dovetails with buffering action; (construction of pneumatic or liquid braking devices E05F3/00; combined with devices for holding wings open E05C17/00; devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing E05C17/04)

Definition statement

This subclass/group covers:

Construction of braking devices, stops and buffers for wings.

Relationship between large subject matter areas

Construction of braking devices integrated in openers and closers, including self-closing hinges, in [E05F 3/00](#).

Informative references

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

Braking devices combined with devices for holding the wing	E05C 17/00
Devices for limiting opening of wings	E05C 17/04

E05F 7/00

Miscellaneous accessories for wings (specially adapted for furniture A47B95/00; door-lifters B66F, E04F21/00; knobs or handles E05B)

Definition statement

This subclass/group covers:

Accessories or devices providing additional control to the wing, e.g. devices for alignment of the wing, rattling control, or devices to take the wing's weight arranged away from a hinge axis.

Relationship between large subject matter areas

Accessories for sliding or lifting wings in [E05D 13/00](#)

Accessories for hinges in [E05D 11/00](#)

Door lifters in [B66F](#)

Knobs and handles in [E05B](#)

References relevant to classification in this group

This subclass/group does not cover:

Counterbalance devices for sliding or lifting wings	E05D 13/10
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Informative references

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

Accessories for wings, adapted for furniture	A47B 95/00
Door lifters	B66F , E04F 21/00
Knobs or handles	E05B

E05F 7/02

**for raising wings before being turned [N: before sliding
E05D15/565]**

Informative references

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

Accessories for raising wings before sliding	E05D 15/565
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E05F 7/04

Arrangements affording protection against rattling (with buffering action E05F5/00)

Informative references

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

Arrangements with buffering action	E05F 5/00
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E05F 7/08

Special means for transmitting movements between vertical and horizontal sliding bars, rods, or cables [N: (E05D15/5208 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Means for transmitting movements between vertical and horizontal sliding bars, rods, or cables in wings opening about a vertical as well as a horizontal axis	E05D 15/5208
Means for transmitting movements between vertical and horizontal sliding bars, rods, or cables, for the fastening of wings	E05C 9/24

E05F 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)

Definition statement

This subclass/group covers:

Hand-held rods constructed to operate wing bolts or fastenings and to operate by hand the wings per se.

Relationship between large subject matter areas

Bolts or fastening devices for wings in [E05C](#)

Gravity-, or spring-operated closers or openers for wings in [E05F 1/00](#)

Power-operated door closers or openers in [E05F 15/00](#)

E05F 11/00

Man-operated mechanisms for operating wings, including those which also operate the fastening (connecting mechanisms for a plurality of wings E05F17/00)

Definition statement

This subclass/group covers:

Operating mechanisms in wings, casings or frames constructed to convert the manual force input from a user into movement of a wing, such as belt-, cable-, cord-, or chain-drives, lifting arms, rack and pinion drives or screw and nut arrangements.

Relationship between large subject matter areas

Operating mechanisms for wings constructed to convert the force input from a motor into movement of a wing in [E05F 15/10](#)

Operating mechanisms for wings constructed to convert the force input from the weight of a person or vehicle into movement of a wing in [E05F 13/00](#)

Informative references

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

Connecting mechanisms for a plurality of wings	E05F 17/00
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Special rules of classification within this group

It is noted that the main group [E05F 11/00](#) contains a large number of older documents that were classified administratively. These documents have not yet been reclassified to the sub-groups of [E05F 11/00](#) and are indexed with [E05Y 2800/00](#). The presence of these documents should not be construed as an indicator to classify similar documents in [E05F 11/00](#). Rather, the sub-groups always take precedence.

E05F 11/02

for wings in general, e.g. fanlights (E05F11/36 takes precedence; for windows to be lowered vertically E05F11/38; for doors E05F11/54)

References relevant to classification in this group

This subclass/group does not cover:

Mechanisms specially designed for passing through a wall	E05F 11/36
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Informative references

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

Mechanisms for sliding windows, e.g. vehicle windows, to be opened or closed by vertical movement	E05F 11/38
Mechanisms for doors	E05F 11/54

E05F 11/32

with rotary bars guided in the frame (E05F11/34 takes precedence)

References relevant to classification in this group

This subclass/group does not cover:

Screw and nut mechanisms	E05F 11/34
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E05F 11/38

for sliding windows, e.g. vehicle windows, to be opened or closed by vertical movement

Special rules of classification within this group

[E05F 15/1669](#) applies in addition to [E05F 11/38](#) if the operating/transmission mechanism of the vertically sliding window is powered by an electric motor.

E05F 11/382

for vehicle windows (E05F11/40 to E05F11/52 take precedence)

Special rules of classification within this group

[E05F 11/40](#) to [E05F 11/52](#) take precedence.

E05F 13/00

Mechanisms operated by the movement or weight of a person or vehicle (through power-operated wing-operating mechanisms E05F15/00)

Definition statement

This subclass/group covers:

Operating mechanisms for wings constructed to convert the force input from the weight of a person or vehicle into movement of a wing.

Relationship between large subject matter areas

Operating mechanisms constructed to convert the manual force input from a user into movement of a wing in [E05F 11/00](#)

Operating mechanisms for wings constructed to convert the force input from a motor into movement of a wing in [E05F 15/10](#)

E05F 15/00

Power-operated mechanisms for wings [N: (for hatch covers B63B19/14; for elevator doors B66B13/00; motor-operated devices for completing closing or initiating opening of a wing E05B17/0029; limit switches H01H3/16)]

Definition statement

This subclass/group covers:

Operating mechanisms for wings constructed to convert the force input from a motor into movement of a wing.

The group furthermore covers safety devices for power-operated wings, such as obstruction detection means, and controlling means, such as remote wireless controls means.

Informative references

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

Power-operated mechanisms for hatch covers in ships	B63B 19/14
Power-operated mechanisms for elevator doors	B66B 13/00
Power-operated mechanisms for completing closing or initiating opening of a wing	E05B 17/0029
Limit switches	H01H 3/16

Synonyms and Keywords

In patent documents the expression/word "power-operated" is often used with the meaning " motor-operated ".

E05F 15/0004

[N: Safety devices, e.g. safety couplings, detection of obstructions or end position (E05F15/20 takes precedence); anti-dropping devices E05D13/003; by current overload H02H7/0851]

Informative references

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

Automatically-acting means, e.g. by photocells, by electric waves, by thermostats, by rain, by fire	E05F 15/20
Anti-dropping devices	E05D 13/003
Detection of obstructions by current overload	H02H 7/0851

E05F 15/0008

[N: specially adapted for vehicle windows or roofs (E05F15/0013 to E05F15/0095 take precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Safety devices for power-operated mechanisms for wings adapted for mass transit vehicles	E05F 15/0013
Safety devices for power-operated mechanisms for wings using detection by means of monitoring transmitted force or torque	E05F 15/0017
Safety devices for power-operated mechanisms for wings using detection by means of safety edges	E05F 15/0021
Safety devices for pressure medium-operated mechanisms for wings	E05F 15/0095

E05F 15/0013

[N: specially adapted for mass transit vehicles (E05F15/0017 to E05F15/0095 take precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Safety devices for power-operated mechanisms for wings using detection by means of monitoring transmitted force or torque	E05F 15/0017
Safety devices for power-operated mechanisms for wings using detection by means of safety edges	E05F 15/0021
Safety devices for pressure medium-operated mechanisms for wings	E05F 15/0095

E05F 15/0017

[N: Detection by means of monitoring transmitted force or

torque (E05F15/0082, E05F15/0095 take precedence); Safety, e.g. slip, couplings]

References relevant to classification in this group

This subclass/group does not cover:

Detection by means of monitoring transmitted force or torque by transmission of mechanical forces, e.g. using rigid, movable members	E05F 15/0082
Detection by means of monitoring transmitted force or torque in pressure medium-operated mechanisms for wings	E05F 15/0095

E05F 15/0095

[N: specially adapted for pressure medium-operated mechanisms for wings, e.g. detection by means of monitoring transmitted fluid pressure (E05F15/0078 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Safety edges for power-operated mechanisms for wings using detection by means of monitoring fluid pressure	E05F 15/0078
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E05F 15/10

with rotary electromotors [N: (detection of end position by striking, safety couplings E05F15/0017)]

Informative references

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

Detection of end position by striking, safety couplings	E05F 15/0017
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E05F 15/142

[N: operated by push-pull mechanisms, e.g. friction wheels, flexible or rigid rack-and-pinion arrangements (E05F15/141, E05F15/147, E05F15/148 take precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Horizontally-sliding wings for railway-cars	E05F 15/141
Horizontally-sliding wings operated by swinging arms	E05F 15/147
Horizontally-sliding wings operated by screw mechanisms	E05F 15/148

E05F 15/145

[N: operated by flexible elongated pulling elements, e.g. belts, chains (E05F15/141 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Horizontally-sliding wings for railway-cars	E05F 15/141
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E05F 15/147

[N: operated by swinging arms (E05F15/141 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Horizontally-sliding wings for railway-cars	E05F 15/141
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E05F 15/148

[N: operated by screw mechanisms (E05F15/141 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Horizontally-sliding wings for railway-cars	E05F 15/141
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E05F 15/1646

[N: operated by flexible elongated pulling elements, e.g. belts (E05F15/1615 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Flexible rack-and-pinion arrangements	E05F 15/1615
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E05F 15/2007

[N: by thermostats, rain, wind or noise (E05F15/2015 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Automatically-acting means responding to emergency conditions, e.g. fire, storm	E05F 15/2015
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E05F 15/2015

by emergency conditions, e.g. fire (operating or controlling mechanisms for physical fire-barriers A62C2/24; locks actuating in response to heat E05B65/104)] [

Informative references

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

Operating or controlling mechanisms for physical fire-barriers	A62C 2/24
Locks actuating in response to heat	E05B 65/104

E05F 15/2046

[N: reacting to a device carried by a person or object, e.g. a magnet or reflector (E05F15/2076 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Remote wireless control devices	E05F 15/2076
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E05F 17/00

Special devices for shifting a plurality of wings operated simultaneously (for simultaneously moving a plurality of interconnected ventilating lamellae E06B7/086)

Definition statement

This subclass/group covers:

Operating mechanisms for wings constructed to convert the force input from a user, motor, opener or closer into simultaneous movement of several wings.

Informative references

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

Simultaneously moving a plurality of interconnected ventilating lamellae	E06B 7/086
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