

Title (en)
3-D ADJUSTABLE CONCEALED HINGE FOR DOOR OR WINDOW APPLICATIONS

Title (de)
DREIDIMENSIONAL JUSTIERBARES VERDECKTES SCHARNIER FÜR TÜR- ODER FENSTERANWENDUNGEN

Title (fr)
CHARNIÈRE 3D DISSIMULÉE RÉGLABLE POUR LES APPLICATIONS DE PORTE OU DE FENÊTRE

Publication
EP 4198229 A1 20230621 (EN)

Application
EP 21216175 A 20211220

Priority
EP 21216175 A 20211220

Abstract (en)
A concealed hinge is proposed (10) for mounting a door or a sash to a frame, with a defined opening angle $0^\circ < \omega < 180^\circ$ between the open (20) and closed position (40), the hinge comprising a frame part (100) with a rotation axis R (120), a sash part (200) being pivotable around said rotation axis R, a rebate section (400) including neighboring portions of the frame part (100) and the sash part (200), forming a shadow gap (405) in between when the hinge (10) is in closed state. A rotational lever-arm (300) connecting the frame part (100) and the sash part (200) exhibits, viewed in cross-section, a hook-shaped contour. The rotational lever-arm (300) encompasses an enclosed clearance area F (350), said clearance area F (350) exhibiting an essentially circle-segment shape, which is defined by four corner points A, E, I', O' with circular arcs between A and E as well as I' and O' and straight lines between A and O' as well as E and I'; said corner points A E I' O' being designated by vectors \vec{A} , \vec{E} , \vec{T} , $\vec{O'}$, between the rotation axis R and said points, thus defining a polar coordinate system with the rotation axis R representing its origin. The clearance area is geometrically defined, wherein the length of vectors \vec{A} and \vec{E} as well as \vec{T} and $\vec{O'}$ are pairwise equal, the angle difference between \vec{T} and $\vec{O'}$ being designated as β , the angle difference between \vec{A} and \vec{E} being designated as α and the following relations for the angles α , β , ω are being valid: $\alpha \geq \omega$ as well as $\beta \geq \omega$. Further, a respective method for construing such a concealed hinge is disclosed.

IPC 8 full level
E05D 3/02 (2006.01); **E05D 5/06** (2006.01); **E05D 7/04** (2006.01)

CPC (source: EP)
E05D 3/02 (2013.01); **E05D 5/06** (2013.01); **E05D 7/04** (2013.01); **E05D 2005/067** (2013.01); **E05D 2007/0492** (2013.01); **E05Y 2201/638** (2013.01); **E05Y 2600/12** (2013.01); **E05Y 2600/31** (2013.01); **E05Y 2600/41** (2013.01); **E05Y 2900/132** (2013.01); **E05Y 2900/148** (2013.01)

Citation (applicant)
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Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4198229 A1 20230621

DOCDB simple family (application)
EP 21216175 A 20211220