

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 375 801 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

02.01.2004 Bulletin 2004/01

(51) Int Cl.7: **E05D 7/12, E05D 5/08**

(21) Application number: **03468002.5**

(22) Date of filing: **24.06.2003**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**

Designated Extension States:

AL LT LV MK

(72) Inventor: **Pecar, David**

6276 Pobegi (SI)

(74) Representative: **Skubic, Vinko (SI)**

Patentna pisarna d.o.o.

Copova 14

P.O. Box 1725

1001 Ljubljana (SI)

(30) Priority: **27.06.2002 SI 200200162**

(71) Applicant: **Lama D.D. Okovje-Montazni**

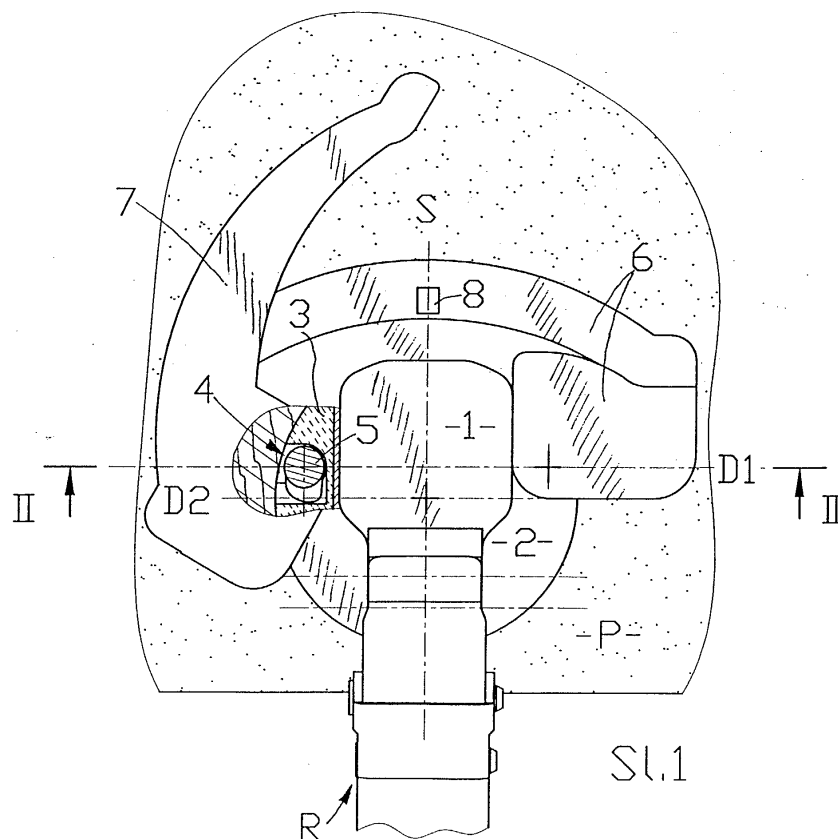
Sistemi-Orodja-Trgovina

6271 Dekani (SI)

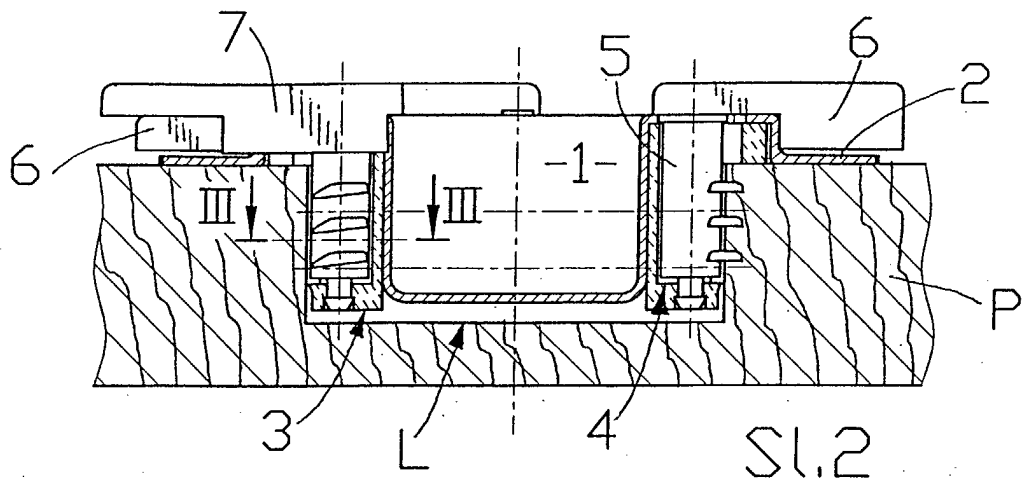
(54) **Furniture hinge**

(57) A furniture hinge with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge. It is about an aggregation of a hinge cup (1, 3) and a pair of anchoring shafts (5), known per se, arranged inside a circular con-

tour of said hinge cup. A handle (6, 7) is connected to each anchoring shaft (5). The length of the handle (6, 7) extends practically up till a point of rotation of another handle (7, 6). When anchored the handles (6, 7) mutually substantially coincide.



EP 1 375 801 A1



Description

[0001] The invention relates to furniture hinges with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge.

[0002] By the indication "single receptacle", a hinge cup is denoted whose fastening on a respective panel of a furniture component, suitably a door wing, provides a single receptacle, actually a blind hole, in contrast to two receptacles hinge cups and three receptacles hinge cups, respectively, where in addition to a receptacle for the hinge cup a further receptacle and two further receptacles, respectively, is/are foreseen to accommodate a further fastening member and two further fastening members, respectively, of the hinge cup.

[0003] A furniture hinge with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge is known from e.g. US patents No. 4,270,240 to Zernig et al. and 5,463,796 to Brüstle et al.

[0004] The hinge cup for furniture hinges to Zernig et al. provides a mantle surface with a series of annular anchoring ribs adapted for mating an enclosing wall of a receiving receptacle of a panel of a furniture component with an outer diameter of said ribs exceeding a nominal diameter of said receptacle, whereas in the hinge pot to Brüstle et al., two diametrical anchoring elements are hooks to be driven into the wall of the receptacle with said hooks being axially drawn both by a single lever type bracket for realizing said radial driving in of hooks. As to the first mentioned hinge cup, it is axially driven in the receiving receptacle by a hammer with the anchoring ribs being yieldingly deformed one after another when entering the receiving receptacle and the ribs deformed slide along the enclosing wall of the receptacle where they finally are located in such a state. It is about a stochastic deformation as well as a stochastic anchoring; as a rule, to remove the hinge cup from the receiving receptacle means to ruin both the receiving receptacle and the hinge cup; as to the material, merely plastics is practically appropriate, but as to plastics it is well known that, by ageing, its behavior alters. As to the second mentioned hinge pot, it is about a point wise driving in type anchoring with driving in outwards which means a permanent risk of the material of the panel to get split.

[0005] When creating the present invention, a furniture "240" hinge of an Applicant's production, patent US 6,279,200 to Ferrari et al., and patent US 5,577,297 to Lautenschläger et al. were considered as technological background. As to the first mentioned furniture hinge, a two receptacles hinge cup provides an arrangement for blocking a closed state of the hinge and a simple hinge arm; as to the second mentioned and the third mentioned patents, respectively, each of furniture hinges disclosed therein provides a three receptacles hinge cup and a hinge arm with an arrangement provided in it

for blocking a closed state of the hinge.

[0006] Taken from the said antecedent solutions are the following features: from the first one, an anchoring of a hinge cup in a wall of a single receiving receptacle of a panel of a furniture component, providing a pair of anchoring blades residing inside a circular contour of the hinge cup and being able to swing outwards; from the second one, an operating lever to be integral with each anchoring element to rotate it from a non-operative into an anchoring position; and from the third one, an information relating to means for how to facilitate the work with the said operating lever.

[0007] It is an object of this invention to obviate drawbacks of known furniture hinges with a single receptacle hinge cup and a hinge arm with an arrangement in it for blocking a closed state of the hinge as well as to embody advantages of the above mentioned two receptacles hinge cups and three receptacles hinge cups, respectively.

[0008] Hereinafter, the invention is disclosed in detail on the basis of a generalized embodiment of a furniture hinge with a single receptacle hinge cup and a hinge arm with an arrangement in it for blocking a closed state of the hinge. In the drawings,

FIG. 1 is a plan view of a furniture hinge, partly a section of a detail taken along line III-III of **FIG. 2**, comprising a single receptacle hinge cup and a partly shown hinge arm with an arrangement in it for blocking a closed state of the hinge, in a state thereof with the hinge open, the hinge cup positioned, an anchoring shaft shown on the right, anchored, and an anchoring shaft shown on the left, prepared for being anchored, and

FIG. 2 is a section taken along line II-II of **FIG. 1**.

[0009] A single receptacle hinge cup as shown, as a main part of this disclosure and to which a hinge arm R is connected, in which hinge arm there is provided a spring device arrangement (not shown) for retaining the hinge in a closed condition provides a main, metallic, hinge cup 1 having a main hinge cup cavity of a substantially square plan (**FIG. 1**) and a flange 2 surrounding it. Adapted to an outer mantle surface of a wall of said main hinge cup cavity of the hinge cup 1 is a molded holder 3 (**FIG. 2**) of plastics that, within the plan, defines a nominal installation dimension of the hinge cup inside a contour of the flange 2.

[0010] In the molded holder 3 there are provided two molded recesses 4 to fit anchoring shafts 5 - one on each side. The recesses 4 and shafts 5, respectively, are located on a line D1 (**FIG. 1**) that is normal to a main axis S of the hinge and located close to a line D2 that coincides with a diameter of a blind hole type receptacle L, made in a panel P of a furniture component.

[0011] The anchoring shaft 5 is a cylindrical member having wedgedly designed blades projecting from a

mantle surface of said cylindrical member and inclined in a circumferential direction of said cylindrical member (the left side of FIG. 2) so as to obtain tightening the anchoring shaft 5 against a bottom surface of said receptacle L when driven in a wooden wall of the receptacle L. In a non-operative state (when installing the hinge cup) the said blades are retracted into respective slots of the molded recess 4 provided in the wall of said molded holder 3 as clearly evident from section III-III in FIG. 1.

[0012] A handle 6, 7 is above, preferably integrally, connected to each anchoring shaft 5; according to the invention, each handle 6, 7 extends practically up till the point of rotation of another handle, and an appropriate means 8 is foreseen for fixing an anchoring position of the handles 6, 7. In plan, the handles 6, 7 mutually coincide.

[0013] The depth of the receptacle L exceeds or, at the utmost, equals to the axial extension of a section of the anchoring shaft 5 between the flange 2 and a free distal point of said shaft, and the diameter of the blind hole receptacle L exceeds or, at the utmost, equals to the a nominal diameter of molded holder 3.

[0014] In an alternative (another material), the hinge cup 1 and the molded holder 3 are a single integral member.

[0015] It is extremely simple to bring the hinge cup into the receiving receptacle L; after inserting the hinge cup part into the receiving receptacle (then, the handles 6, 7 are swung out of their blocked position), the handles 6, 7 are manually (without tool) swung inwards into the blocking position, whereby the blades of the anchoring shafts 5 are driven into the wall of the receiving receptacle L, whereby the respective anchoring shaft 5 is tightened by said blades against the bottom of the receptacle L.

[0016] Disassembling of the hinge cup part from the receiving receptacle L proceeds by an inverse procedure.

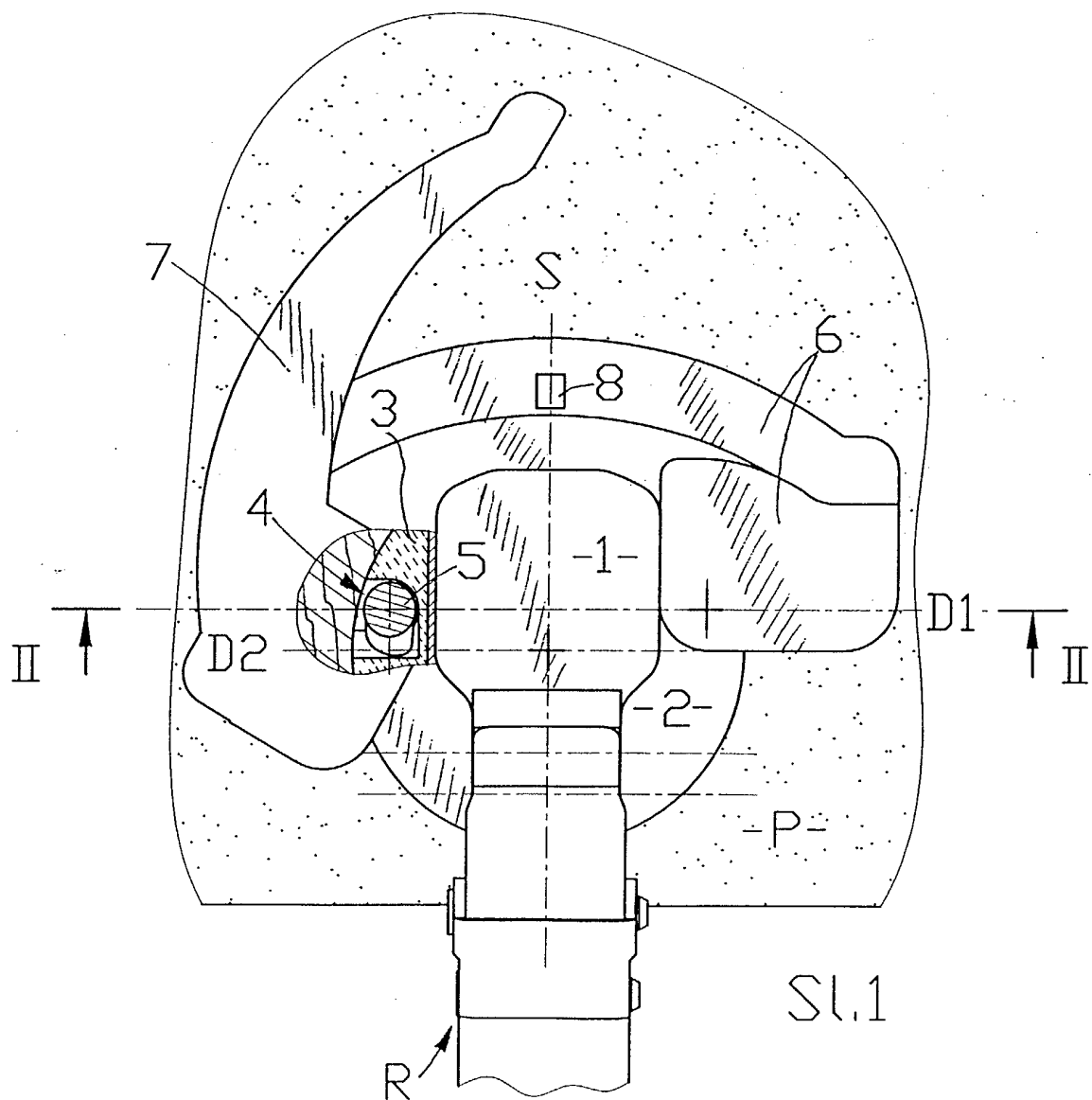
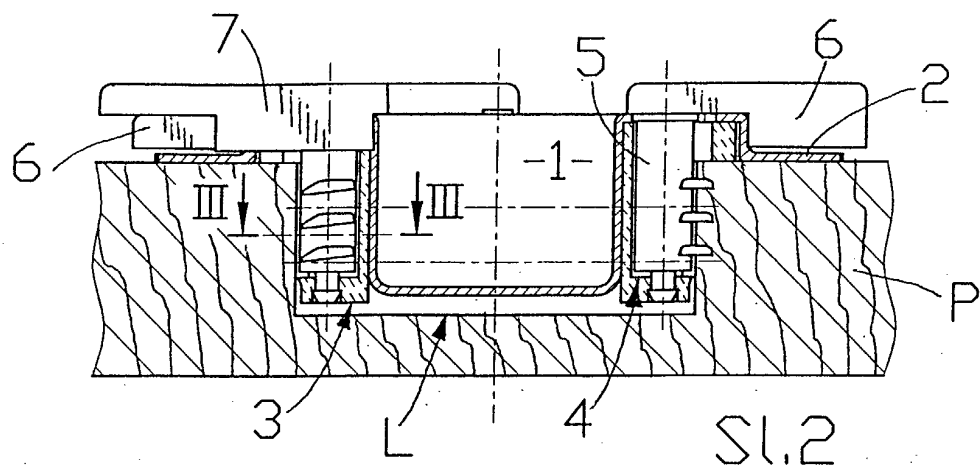
3. A furniture hinge with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge, **characterized by** an aggregation of a hinge cup (1, 3) and a pair of anchoring shafts (5), known per se, arranged inside a circular contour of said hinge cup, with a handle (6, 7) connected to each anchoring shaft (5), whose length extends practically up till a point of rotation of another handle (7, 6).

4. Furniture hinge of claim 3, **characterized in that** when anchored the handles (6, 7) mutually substantially coincide.

Claims

1. A furniture hinge with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge, **characterized by** an aggregation of a hinge cup (1, 3) and a pair of anchoring shafts (5), known per se, arranged inside a circular contour of said hinge cup.

2. A furniture hinge with a single receptacle hinge cup and a hinge arm having an arrangement residing in it for blocking a closed state of the hinge, **characterized by** an aggregation of a hinge cup (1, 3) and a pair of anchoring shafts (5), known per se, arranged inside a circular contour of said hinge cup, with a handle (6, 7) connected to each anchoring shaft (5).





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 46 8002

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 715 577 A (LAUTENSCHLAEGER GERHARD W ET AL) 10 February 1998 (1998-02-10) * column 4, line 12 - column 5, line 65; figures *	1-4	E05D7/12 E05D5/08
X	DE 25 24 503 A (HETTICH PAUL & CO) 30 December 1976 (1976-12-30) * page 3, line 14 - page 4, line 25; figures *	1	
A	US 5 979 017 A (KARL REINHARD) 9 November 1999 (1999-11-09) * the whole document *	1-4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E05D A47B
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 30 September 2003	Examiner Di Renzo, R
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 46 8002

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-09-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5715577 A	10-02-1998	DE 19521909 A1	14-11-1996
		AT 409650 B	25-09-2002
		AT 38696 A	15-02-2002
		ES 2147052 A1	16-08-2000
		IT T0960368 A1	07-11-1997

DE 2524503 A	30-12-1976	DE 2524503 A1	30-12-1976

US 5979017 A	09-11-1999	NONE	
