

Title (en)  
Piece coated with a protective layer.

Title (de)  
Mit einer Schutzschicht bedeckter Gegenstand.

Title (fr)  
Objet recouvert d'une couche de protection.

Publication  
**EP 0414025 A1 19910227 (FR)**

Application  
**EP 90115056 A 19900806**

Priority  
CH 308689 A 19890825

Abstract (en)  
[origin: JPH03118001A] PURPOSE: To provide a hardness, a beautiful satin style dull surface and a final coloring by composing a protective coating from the first layer of the aluminum of a substantially pure state, and the second layer applied on the first layer and consisting of aluminum oxide formed from the first layer. CONSTITUTION: A cast aluminum member is coated with the first layer consisting of a substantially pure state aluminum containing the lower content of silicon such as less than 0.5wt.% of the silicon content. The first coating is conducted by a normal electroplating, however, may be obtained by the other way such as physical vapor deposition in the gaseous phase (PVD). Regarding to the first layer consisting of substantially pure state aluminum, the second layer consisting of the aluminum oxide itself formed by an anode oxidation from the first layer is obtained. The surface of the aluminum oxide is formed by the electrolysis by using a metal as an anode. The second layer has the thickness of 2.5-200µm. Oxalic acid or chromic acid can be used as well as sulfuric acid.

Abstract (fr)  
L'objet utilisé notamment en horlogerie ou en bijouterie comporte un substrat qui en constitue l'ossature et qui est réalisé de préférence en fonte d'aluminium injectée. Un revêtement décoratif et de protection recouvre le substrat, revêtement qui consiste en un dépôt d'une première couche d'aluminium à l'état sensiblement pur et d'une seconde couche recouvrant la première, cette seconde couche étant constituée d'oxyde d'aluminium formée à partir de la première couche. L'objet peut être une boîte de montre ou un maillon de bracelet.

IPC 1-7  
**G04B 37/22**

IPC 8 full level  
**A44C 5/00** (2006.01); **B32B 9/00** (2006.01); **B32B 15/01** (2006.01); **C25D 11/04** (2006.01); **G04B 37/22** (2006.01)

CPC (source: EP KR US)  
**C23C 28/00** (2013.01 - KR); **G04B 37/22** (2013.01 - EP US); **Y10T 428/12611** (2015.01 - EP US)

Citation (search report)

- [XD] FR 2360112 A1 19780224 - DUCOMMUN GEORGES [CH]
- [XD] US RE28527 E 19750826
- [A] GB 2071153 A 19810916 - CITIZEN WATCH CO LTD
- [XD] horological journal no. 111, août 1968, 2/6 pages 22 - 24; B.MORGAN: ""all that glisters""

Cited by  
EP1273679A1; DE10132089A1

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**EP 0414025 A1 19910227**; CH 676650G A3 19910228; CN 1049687 A 19910306; JP H03118001 A 19910520; KR 910004841 A 19910329; US 5029149 A 19910702

DOCDB simple family (application)  
**EP 90115056 A 19900806**; CH 308689 A 19890825; CN 90107307 A 19900824; JP 22269290 A 19900827; KR 900012861 A 19900821; US 57254890 A 19900827