

Title (en)  
DEVICE FOR PRODUCING A HIGH-RESOLUTION REFLECTION HOLOGRAM

Title (de)  
VORRICHTUNG ZUM ERZEUGEN EINES REFLEKTIONSHOLOGRAMMS HOHER AUFLÖSUNG

Title (fr)  
DISPOSITIF POUR LA PRODUCTION D'UN HOLOGRAMME À HAUTE DÉFINITION PAR RÉFLEXION

Publication  
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Application  
**EP 08758038 A 20080513**

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Abstract (en)  
[origin: WO2008138309A2] The invention relates to a device (1) for producing a reflection hologram (RH) by means of a master (3) which is formed by a substrate (4) on which a saw-toothed shaped structure (5) is formed by moulding, mechanical or lithographical methods. Said structure (5) has a reflective finish, is reflective or is metallised and is subsequently filled with a transparent layer (6) or a wavelength-selective layer (6), such that a desired surface is produced on the structure (5). The light of a laser light source (7) is expanded by means of an optical device, for example a lens (8) thus enabling a beam (9) having a predetermined beam width (R) to be obtained. The beam (9) radiates the master (3) and is reflected by the structure (5) at an angle  $\alpha$  in relation to the incident beam (9). Above the smooth surface arranged over the structure (5) a photopolymer-film (10), containing a photo-sensitive layer (11) that is disposed at a distance (d) in relation to the structure (5), is arranged and the reflection hologram (RH) is produced in said photo-sensitive layer. When said assembly is illuminated by beams (9) of the laser light source (7), the incident beams (9) interfere with the reflected beams and a reflection hologram that has the function of the structure (5) of the master (3) is produced in the photo-sensitive layer (11). In this case of a saw-toothed shaped structure (5), a so-called holographic mirror that evidently has the property according to which a vertical incident light is deflected at an angle, is thus created in the copy.

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Citation (search report)  
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