PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G11B 7/135

A1

(11) International Publication Number: WO 00/65583

(43) International Publication Date: 2 November 2000 (02.11.00)

(21) International Application Number: PCT/JP00/02609

(22) International Filing Date: 20 April 2000 (20.04.00)

(30) Priority Data:
11/117213 23 April 1999 (23.04.99) JP

(71) Applicant: ASAHI KOGAKU KOGYO KABUSHIKI KAISHA [JP/JP]; 36-9, Maenocho 2-chome, Itabashi-ku, Tokyo 174-8639 (JP).

(72) Inventor: MARUYAMA, Koichi; Asahi Kogaku Kogyo Kabushiki Kaisha, 36-9, Maenocho 2-chome, Itabashi-ku, Tokyo 174-8639 (JP).

(74) Agent: MATSUOKA, Shuhei; Matsuoka & Co., Shin-Toshi-Center Building 5F, 24-1, Tsurumaki 1-chome, Tama-shi, Tokyo 206-0034 (JP).

(81) Designated States: CN, DE, ID, IN, KR, SG, VN.

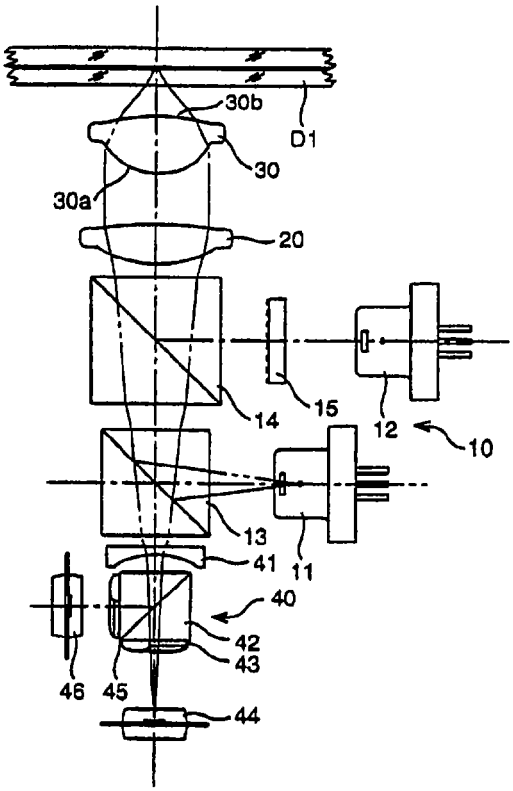
Published
With international search report.

G00001

(54) Title: OPTICAL SYSTEM OF OPTICAL PICK-UP

(57) Abstract

An optical system of an optical pick-up that is capable of using thin cover type and thick cover type optical discs (D1). The system includes a light source portion for emitting a short wavelength laser beam (11) for the thin cover type optical disc and a long wavelength laser beam (12) for the thick cover type optical disc, and an objective lens (30) for converging the laser beam onto an information layer of the optical disc through the cover layer. The objective lens has a diffractive lens structure (30a) having wavelength dependence such that spherical aberration varies in the overcorrected direction as incident wavelength increases. The light source portion emits the laser beam such that divergence of the long wavelength laser beam incident on the objective lens is larger than that of the short wavelength laser beam. The objective lens converges the laser beams of an identical diffractive order without changing position thereof.



162162