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(54) **PICKUP APPARATUS FOR MULTI-LAYER OPTICAL DISC**

(75) Inventors: **Masahiko Ujii**, Iwata (JP); **Takayuki Hayashi**, Toyokawa (JP); **Takuo Tanaka**, Wako (JP); **Satoshi Kawata**, Wako (JP)

(73) Assignees: **Pulstec Industrial Co., Ltd.** (JP); **Riken** (JP)

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(58) **Field of Classification Search** 369/112.01, 369/112.02, 112.1, 44.23, 44.24, 118

See application file for complete search history.

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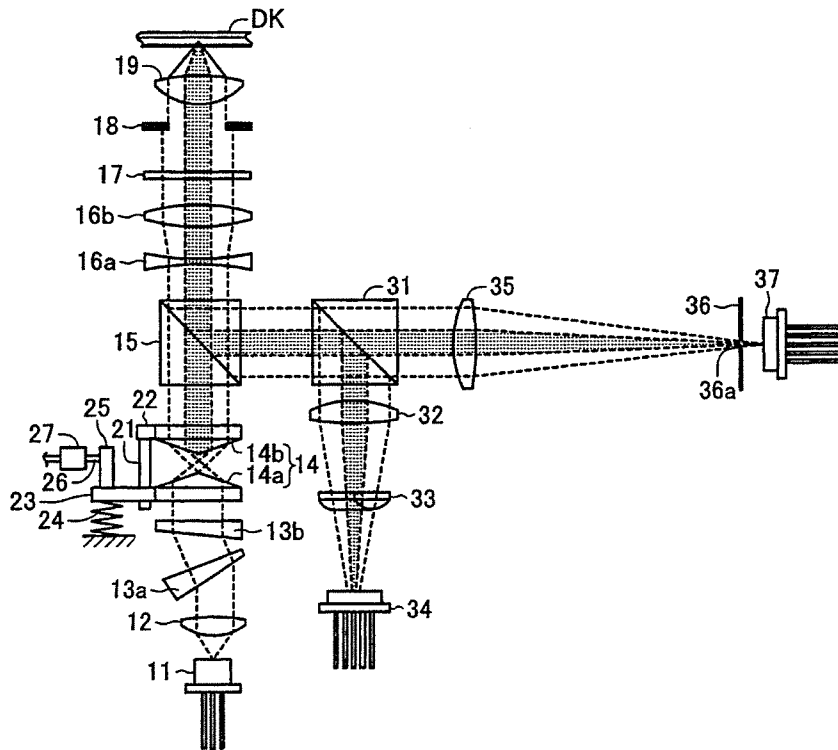
Primary Examiner—Nabil Z Hindi

(74) *Attorney, Agent, or Firm*—Rossi, Kimms & McDowell LLP

(57) **ABSTRACT**

An optical pickup apparatus comprises an orbicular zone forming lens group **14** for forming the section of the laser beam, which is irradiated to an optical disc **DK** having plural recording layers, into an annular shape, a condenser lens **35** that converges the reflected beam from the optical disc **DK**, and a pinhole plate **36** having formed thereto a pinhole **36a** with a size corresponding to a flux diameter of the reflected beam converged by the condenser lens **35**. The orbicular zone forming lens group **14** refracts the laser beam irradiated to the optical disc **DK** so as to form the section of the laser beam into an annular shape in order that the internal diameter of the annular converged flux formed on the pinhole plate **36a** by the reflected beam from the recording layers other than the recording layer having an optical spot formed thereon becomes greater than the diameter of the pinhole **36a**.

15 Claims, 7 Drawing Sheets



〈新規程〉

特許登録通知連絡書

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河田ナノフォトニクス研究室
田中拓男 殿

知的財産戦略センター
知的財産戦略グループ
知財創出・活用チーム
担当：原田
TEL 048-467-9262
Mail:eiko.harada@riken.jp

この度、下記の特許・実用新案登録出願が登録となりましたので、特許登録公報（写）を送付いたします。

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発明者 田中拓男、河田聡、氏家雅彦、林孝之

出願人 理化学研究所、パルステック工業株式会社

名称 再生用光ピックアップ装置

要約 【課題】光ピックアップ装置において、多層光ディスクにおける少なくとも2つ以上の記録層から同時に信号を再生して、多層光ディスク全体に対する信号の再生効率を良好にする。

(添付書類)

特許登録公報（写）