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Isoda

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(54) **TONER DETECTION SENSOR AND IMAGE FORMING APPARATUS**

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See application file for complete search history.

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(57) **ABSTRACT**

A toner-amount detection sensor includes a light-emitting element, a first light-receiving element, and a toner-amount calculating unit. The light-emitting element emits light toward the surface of the transfer body at a predetermined incident angle. The first light-receiving element is disposed on a side opposite to the light-emitting element with respect to a plane normal to the surface of the transfer body. The first light-receiving element receives light reflected from the surface of the transfer body. The toner-amount calculating unit calculates the amount of toner from the quantity of the reflected light received by the first light-receiving element. The sensor has a relationship of $A_1 < A_2 < 1.5A_1$ where A_1 represents the predetermined incident angle with respect to the plane normal to the surface of the transfer body, and A_2 represents an angle of disposition of the first light-receiving element with respect to the plane normal to the surface of the transfer body.

6 Claims, 5 Drawing Sheets

