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# United States Patent [19]

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Robinson et al.

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[54] **DEVELOPER FLOW RATE REGULATION FOR AN ELECTROPHOTOGRAPHIC TONING ROLLER**

*Primary Examiner*—A. T. Grimley  
*Assistant Examiner*—Matthew S. Smith  
*Attorney, Agent, or Firm*—D. Peter Hochberg; Mark Kusner

[75] Inventors: **Kelly S. Robinson**, Fairport; **Althea M. Lucas**, Rochester; **Thomas K. Hilbert**, Spencerport, all of N.Y.

### [57] ABSTRACT

[73] Assignee: **Eastman Kodak Company**, Rochester, N.Y.

A toning roll assembly in which a rotatable core member with magnetic poles disposed about the periphery thereof is positioned within a hollow shell so that the shell-to-core clearance, and therefore, the magnetic field strength on the outside surface of the shell varies from point-to-point on the shell. Magnetically attractable developer particles are fed onto the shell's surface at a point of higher field strength and moved through a point of lower field strength on the shell. The latter field strength is such so that under the operating and design parameters of the assembly, only the amount of developer required to properly tone the latent image on an associated photoconductor remains magnetically supported on the shell for transport to the photoconductor after the developer passes the point of lower field strength. In one embodiment, the core and shell are rotatable cylinders disposed eccentrically with respect to each other, while in another embodiment the core is a rotatable cylinder and the shell is non-cylindrical and stationary.

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[51] Int. Cl.<sup>5</sup> ..... **G03G 15/09**

[52] U.S. Cl. .... **355/253; 355/251; 118/657; 118/661**

[58] Field of Search ..... **355/245, 251, 253; 118/653, 656, 657, 658, 661**

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**15 Claims, 4 Drawing Sheets**

