



US005500082A

United States Patent [19][11] **Patent Number:** **5,500,082****Chang et al.**[45] **Date of Patent:** **Mar. 19, 1996**[54] **DEINKING OF XEROGRAPHIC PRINTED WASTEPAPER USING LONG CHAIN ALCOHOL**[75] Inventors: **Hou-Min Chang; Tien-Wang Wu; John A. Heitmann**, all of Raleigh, N.C.[73] Assignee: **North Carolina State University**, Raleigh, N.C.[21] Appl. No.: **54,179**[22] Filed: **Apr. 26, 1993**[51] Int. Cl.⁶ **D21C 5/02**[52] U.S. Cl. **162/5; 162/77**

[58] Field of Search 162/4, 5, 77, 75; 252/173

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Disclosed is a method of removing ink from xerographically printed paper. The method comprises pulping said printed paper in an aqueous slurry at a non-acidic pH to a consistency of about 8% or less. Next, added to the pulp slurry is a sufficient amount of long chain alcohol, the long chain alcohol having a melting point above room temperature, for a time sufficient with heating at a temperature sufficient, whereby an agglomeration of long chain alcohol and ink particles is formed. Next, the heating is stopped whereby the agglomeration solidifies into particles that settle to the bottom of the pulp slurry. Then, the agglomeration of solidified particles is removed from the pulp slurry thereby leaving a remaining slurry of deinked paper fiber and water. Optionally, the remaining slurry is subjected to flotation to remove substantially any remaining minute ink left particles behind after the agglomeration.

18 Claims, No Drawings