United States Patent [19]

Clapp et al.

[11] Patent Number:

5,046,712

[45] Date of Patent:

Sep. 10, 1991

[54] APPARATUS FOR HANDLING WORKPIECES OF LIMP SHEET MATERIAL

[75] Inventors: Timothy G. Clapp, Raleigh, N.C.; William R. Cole, Jr., Shelbyville,

Tenn.

[73] Assignee: ARK, Inc., Shelbyville, Tenn.

[21] Appl. No.: 579,807

[22] Filed: Sep. 10, 1990

[56] References Cited

U.S. PATENT DOCUMENTS

2,819,075	1/1958	Noon 271/26
3,168,307	2/1965	Walton et al 271/26
3,168,308	2/1965	Walton et al 271/27
3,547,431	12/1970 -	Wagner 271/11
3,988,062	10/1976	Burton et al 271/65 X
4,269,408	5/1981	Heater 271/186 X
4,364,550	12/1982	Hynes 271/11
4,580,771	4/1986	Smith 271/97
4,597,573	7/1986	Reba et al 271/195
4,736,942	4/1988	Wiley 271/284

OTHER PUBLICATIONS

Xerox Disclosure Journal, vol. 4, No. 1, Jan./Feb. 1979, "Sheet Stripping from Photoreceptors", Newbury, p. 47.

Primary Examiner—David H. Bollinger

Attorney, Agent, or Firm—Senniger, Powers, Leavitt & Roedel

[57] ABSTRACT

Apparatus for handling workpieces of limp sheet material including an endless conveyor having a forwardtraveling upper reach for conveying workpieces in a forward direction, each workpiece having a leading edge and a trailing edge. An airfoil extends transversely across the upper reach of the conveyor and a manifold rearward of the airfoil may deliver a jet of air in a generally forward direction between the conveyor and the airfoil as the workpiece travels forwardly under the airfoil such that the leading edge portion of the workpiece raises up from the conveyor toward the airfoil. A clamping mechanism forward of the airfoil receives the leading edge portion of the workpiece. A sensor detects the presence of the leading edge portion between the clamping members and sends a signal in response to which the clamping mechanism is activated to clamp the leading edge portion.

8 Claims, 2 Drawing Sheets

