



US006470873B2

(12) **United States Patent**  
**Battersby et al.**

(10) **Patent No.:** **US 6,470,873 B2**  
(45) **Date of Patent:** **\*Oct. 29, 2002**

(54) **SYSTEM AND METHOD FOR ESTABLISHING PITCH PARAMETERS IN A BALL-THROWING MACHINE**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(57) **ABSTRACT**

A ball-throwing machine is provided for throwing baseballs, softballs and the like, which machine includes a power head having three coacting wheels for propelling a ball toward a batter to simulate a variety of pitches at different speeds and different locations. Three AC motors and companion motor drives are provided for causing the wheels to rotate at predetermined speeds. The motor drives include dynamic braking circuits to permit rapid deceleration of the wheels. A pair of linear actuators is provided to permit the power head to be moved to predetermined horizontal and vertical positions. The pitches are established by providing a table of five separate data elements for each of said pitches, three of said data elements corresponding to the rotational speed of each of said wheels, and the remaining two data elements corresponding to the horizontal and vertical angular position of the power head. Each of these data elements is computed using a mathematical formula that linearly relates each element to the speed of the ball being propelled. A programmable controller is included for individually controlling the rotational speed of each individual wheel, the horizontal position of the power head and the vertical position of the power head. A smart card reader may be employed for programming of the controller and the machine is adapted to be used in conjunction with a video display to simulate the actual pitching of a baseball by a pitcher. The machine is able to interchangeably deliver pitches of different types to different locations at different speeds with less than ten-second intervals between pitches.

(21) Appl. No.: **09/777,952**

(22) Filed: **Feb. 6, 2001**

(65) **Prior Publication Data**

US 2001/0006063 A1 Jul. 5, 2001

**Related U.S. Application Data**

(63) Continuation of application No. 09/457,808, filed on Dec. 9, 1999, now Pat. No. 6,186,133, which is a continuation-in-part of application No. 09/259,722, filed on Mar. 1, 1999, now Pat. No. 6,182,649.

(51) **Int. Cl.**<sup>7</sup> ..... **F41B 4/00**

(52) **U.S. Cl.** ..... **124/78**

(58) **Field of Search** ..... 124/6, 78; 473/451

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**6 Claims, 13 Drawing Sheets**

