

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

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(54) APPARATUS AND SYSTEM FOR TEACHING CALCULATION SKILLS	8,672,683 B2 * 3/2014 Long G06F 3/011 434/191 2002/0197589 A1 * 12/2002 Wood G09B 19/02 434/201
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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.

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(51) **Int. Cl.**
G06C 1/00 (2006.01)
G09B 19/02 (2006.01)
G09B 5/02 (2006.01)

(57) **ABSTRACT**

Provided is an apparatus for teaching calculation skills. The apparatus may include a plurality of beads and a set of columns of the cells being configured to be occupied by one of the beads. The apparatus may include a set of sensors configured to determine occupation of the cells by the beads, and a processing unit electronically coupled to the set of sensors. The processing unit can be configured to: receive from a server at least one array of integer numbers. Each of the integer numbers represents an intermediate result of solving of a sequence of mathematical operations displayed to a user; determine, via the set of sensors, occupation of the cells by the beads; translate the occupation of cells to a check number; and compare the check number to a current number in array to determine whether the current operation is solved correctly.

(52) **U.S. Cl.**
CPC **G06C 1/00** (2013.01); **G09B 5/02** (2013.01); **G09B 19/025** (2013.01)

(58) **Field of Classification Search**
CPC G06C 1/00; G09B 5/02; G09B 19/025
See application file for complete search history.

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16 Claims, 9 Drawing Sheets

