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(54) **LAYING NEST WITH EXPULSION SYSTEM**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

663,916 A * 12/1900 Markwell A01K 31/18
119/487
902,056 A * 10/1908 Crosley A01K 31/16
119/339
1,217,721 A * 2/1917 Drake A01K 31/16
119/333

(Continued)

FOREIGN PATENT DOCUMENTS

NL 9301627 4/1995
WO WO-2014/072945 5/2014

OTHER PUBLICATIONS

"International Application No. PCT/IB2013/060001, International Search Report Mailed Jan. 27, 2014", 4 pgs.

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(57) **ABSTRACT**

A laying nest comprising boxes (12) having at least a bottom (24), sidewalls (18), a back wall (22), and a roof (20). Further, the laying nest comprises an expulsion system which comprises a shaft (26) which is provided with at least one gear wheel which is fixedly connected with the shaft. An expulsion plate of the expulsion system is rotatably connected with the shaft and via a support shaft is pivotably and slidably connected with the box. The expulsion system further comprises a gear rack (34) which is fixedly arranged in the box and which is configured for cooperation with the gear wheel, such that upon rotation of the shaft, this shaft moves along the gear rack, thereby carrying along the expulsion plate.

5 Claims, 9 Drawing Sheets

