

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

(10) **Patent No.:** **US 9,408,969 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **ANESTHETIC SOLUTION-FILLED
CARTRIDGE-TYPE ELECTRIC DENTAL
SYRINGE**

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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 603 days.

(21) Appl. No.: **13/997,864**

(22) PCT Filed: **Dec. 27, 2010**

(86) PCT No.: **PCT/JP2010/073575**
§ 371 (c)(1),
(2), (4) Date: **Jul. 17, 2013**

(87) PCT Pub. No.: **WO2012/090273**
PCT Pub. Date: **Jul. 5, 2012**

(65) **Prior Publication Data**
US 2014/0011158 A1 Jan. 9, 2014

(51) **Int. Cl.**
A61M 5/20 (2006.01)
A61M 5/24 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC **A61M 5/20** (2013.01); **A61C 19/08**
(2013.01); **A61M 5/24** (2013.01); **A61M**
5/31511 (2013.01); **A61C 5/062** (2013.01);
A61M 2005/31518 (2013.01)

(58) **Field of Classification Search**

CPC **A61M 5/20**; **A61M 5/31511**; **A61M 5/24**;
A61M 2005/31518; **A61C 19/08**; **A61C 5/062**
See application file for complete search history.

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(57) **ABSTRACT**

Provided is an anesthetic solution-filled cartridge-type elec-
tric dental syringe, wherein the plunger has been shortened
but the plunger can nevertheless be extended to the distance
necessary to evacuate the anesthetic solution from the car-
tridge. The syringe comprises: an extension tube into which a
plunger is movably inserted, the extension tube being mov-
ably disposed in the through hole of a support block and
having racks formed in the side surface thereof that are coor-
dinated with the racks of the plunger; and a means for the
plunger to draw the extension tube to engage the racks of the
extension tube with a pinion when the plunger reaches the
middle of the distance corresponding to the anesthetic solu-
tion accommodation length of the cartridge. By the engage-
ment of the racks of the extension tube with the pinion, the
plunger moves together with the extension tube for the
remainder of the distance corresponding to the anesthetic
solution accommodation length of the cartridge.

3 Claims, 7 Drawing Sheets

