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(54) **ENDODONTIC ROTARY INSTRUMENTS  
MADE OF SHAPE MEMORY ALLOYS IN  
THEIR MARTENSITIC STATE AND  
MANUFACTURING METHODS**

**Publication Classification**

(51) **Int. Cl.**  
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(52) **U.S. Cl.** ..... **29/896.1**

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(57) **ABSTRACT**

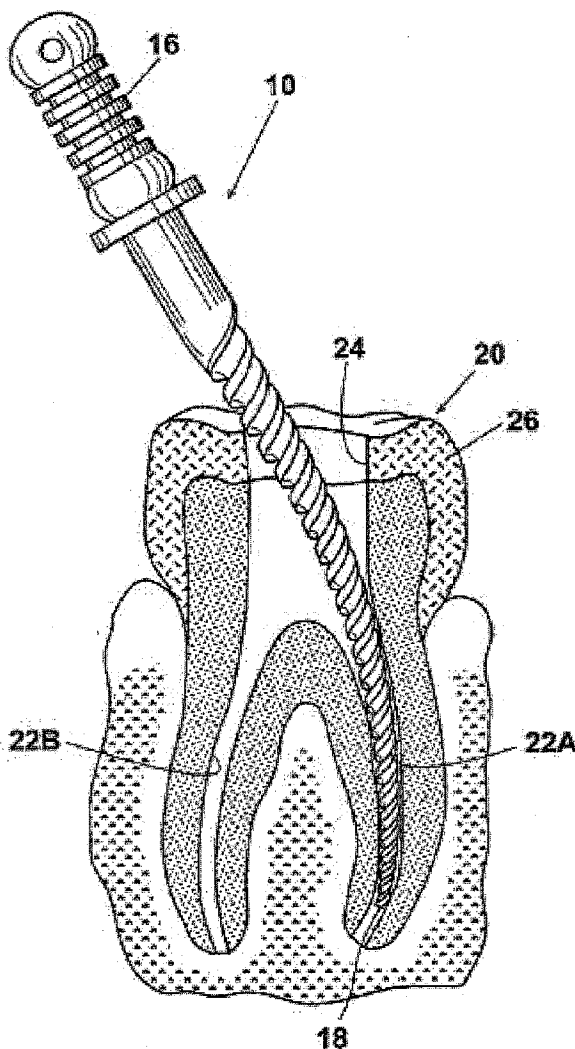
(21) **Appl. No.:** **13/102,439**

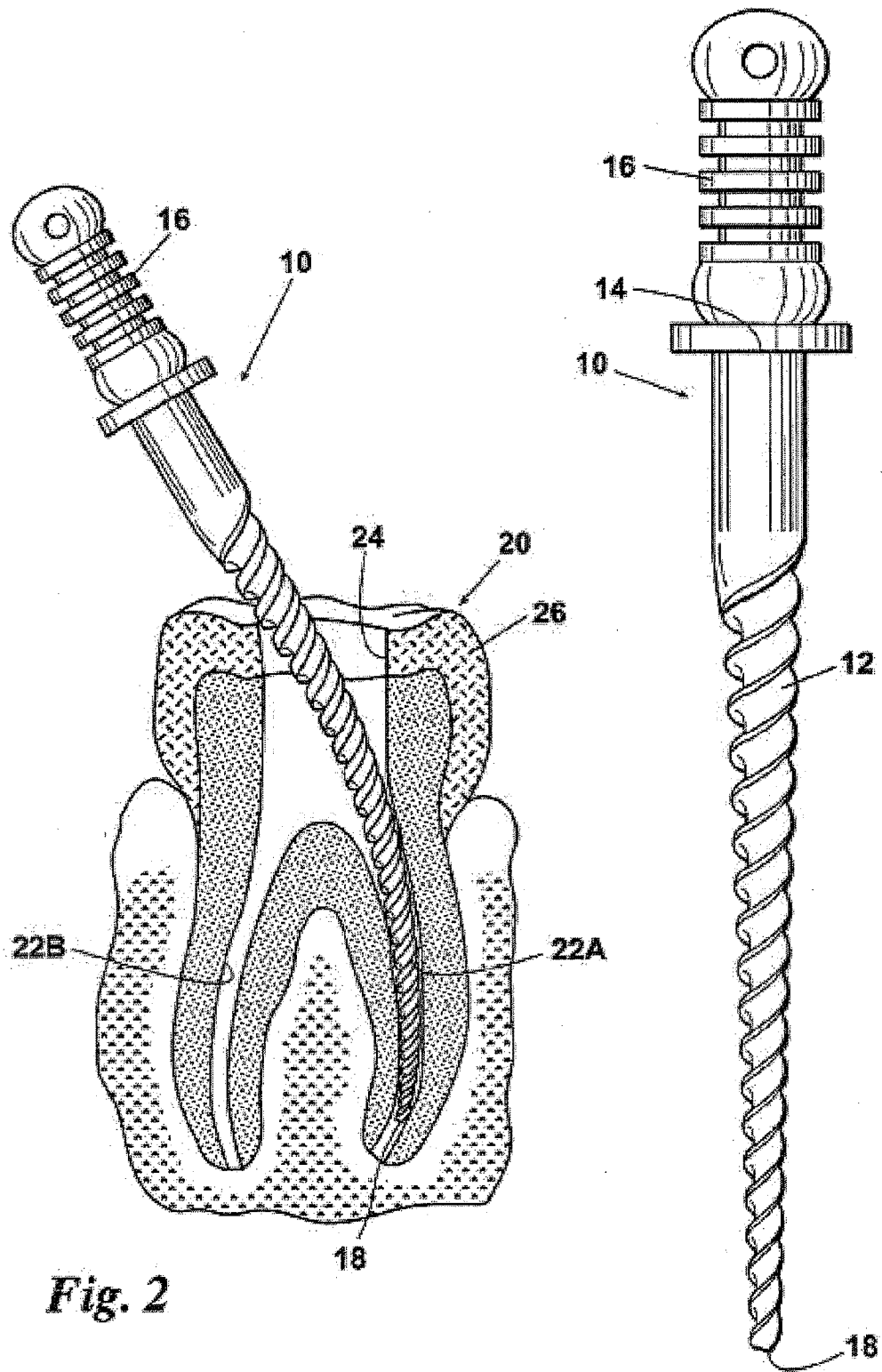
A method for manufacturing a non-superelastic rotary file comprising the steps of: providing a superelastic rotary file having an austenite finish temperature; and heating the superelastic rotary file to a temperature of at least about 300° C. for a time period of at least about 5 minutes to alter the austenite finish temperature thereby forming the non-superelastic rotary file; wherein the altered austenite finish temperature of the non-superelastic rotary file is greater than about 25° C.

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**Related U.S. Application Data**

(60) Provisional application No. 61/332,954, filed on May 10, 2010.





*Fig. 2*

*Fig. 1*

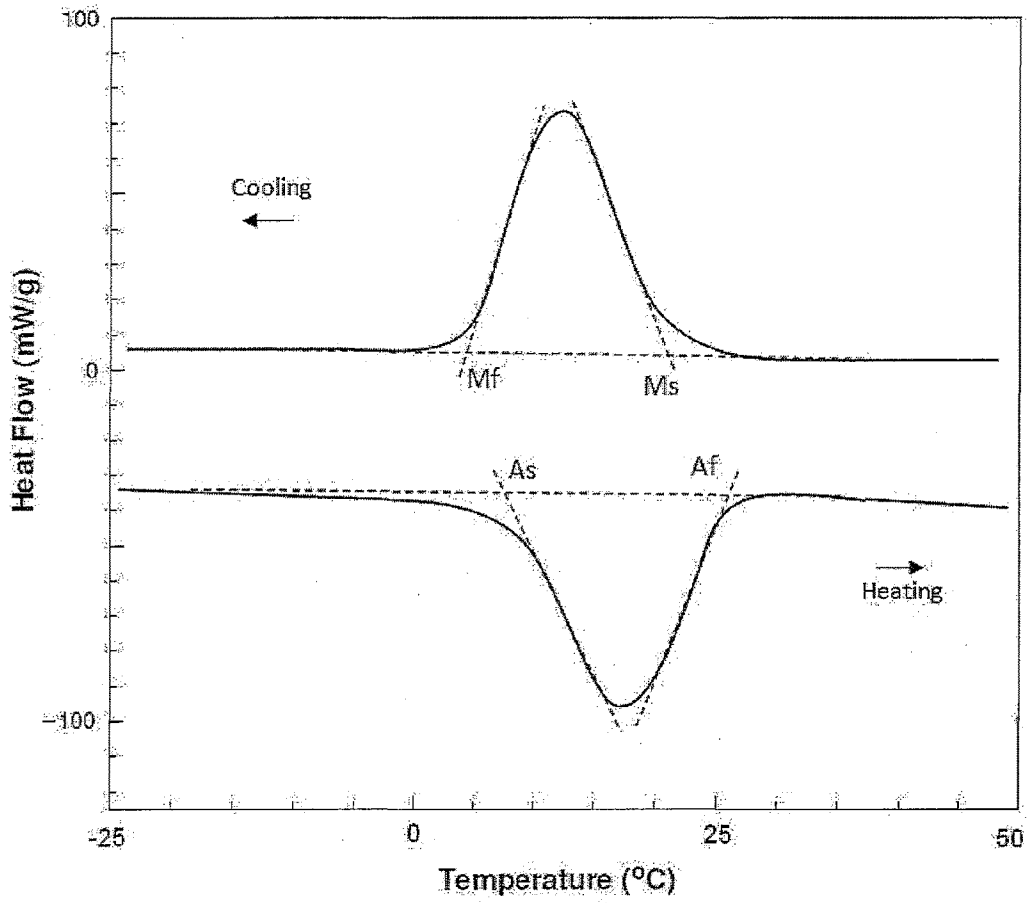
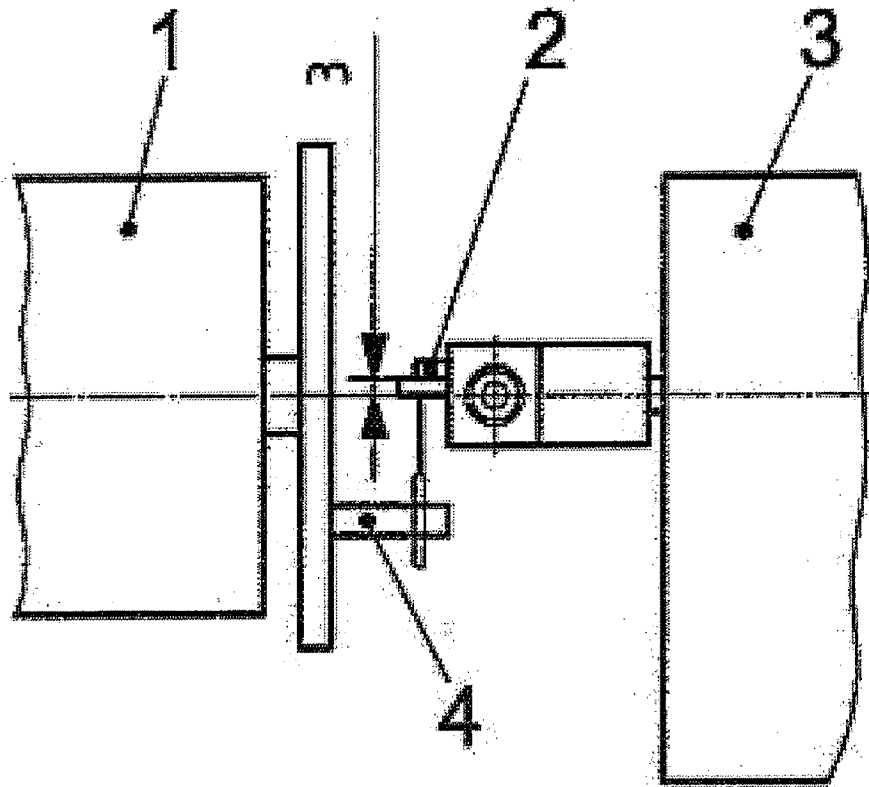


FIG. 3



**Key**

- 1 reversible gear motor
- 2 stop
- 3 torque-measuring device
- 4 catch pin

**Apparatus for bending test**

**FIG. 4**

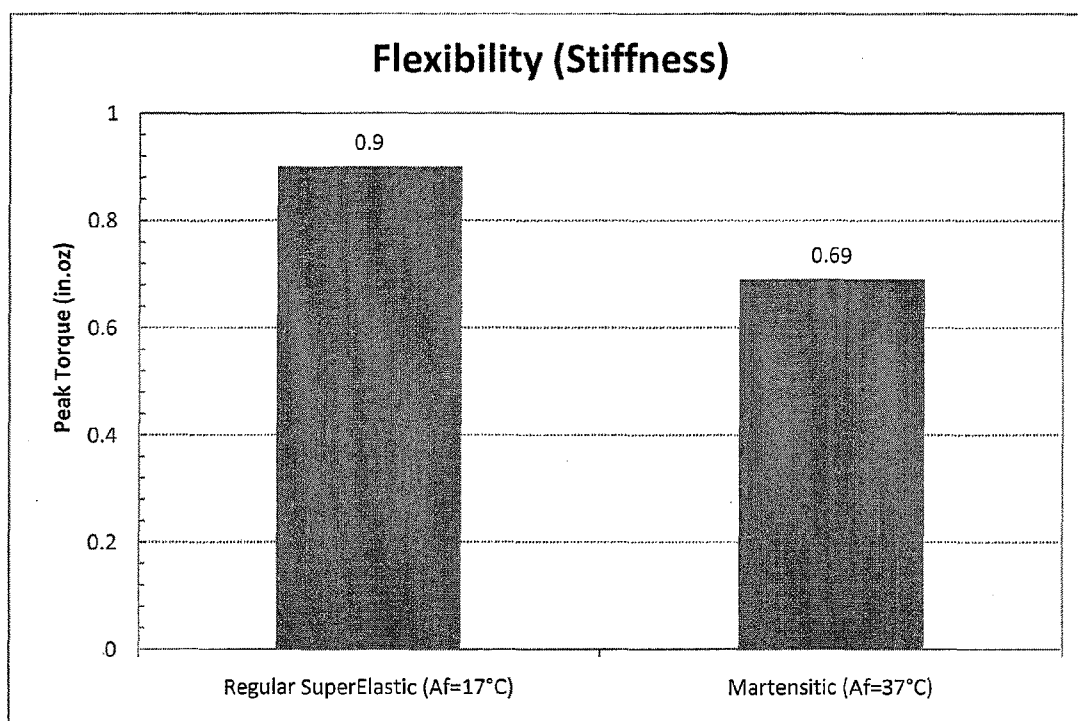


FIG. 5

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