

(19)
(12)

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(A)

(51) 。 Int. Cl.7
A61B 1/04

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(43)

10-2004-0110566
2004 12 31

(21) 10-2003-0039919
(22) 2003 06 19

(71) 2 39-1

(72) 39-1KIST A 203

96-646/3

780-3923/2

2 802

(74)
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(54)

가 , 가 ; ;

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1

2 1
3 1
4
5 1
6 1
7 1
8 1
9 1

100 : 110 :
120 : 130 :
140 : 150 :
160 : 200 :
300 :

(臟器)

가

가

(Virtual Colonoscopy)
(生檢;Biopsy)

가

가

가

(臟器)

(臟器)

가 ,
 가
 가 ; 가
 가 ; 가
 ; 가 ;
 ; 가 ;
 ,
 1
 가 (300) 1 (100)가 (100) ; (100) (100)
 (200) (200) (200) ; (100)
 (100) (110)가 1 (120) , (110) ,
 (130), (100) 가 (140) , (150) (100)
 (110) 가 가
 (100) , 가 가
 (100) (100) (100)
 (160)가 가
 (300) 1 2 (100) (310) ,
 (140) (150) (140) (300)
 (200)가 (IPMC; ionic polymer met
 al composite)
 (200) (300) 가 (100) 가 ,
 가 , 3 ,
 (200) (PDMS; polymethyl siloxane)

(200)

가

가

4

4 (S)

(S)

(S)
(110)

2

(410)

(420)

(400)

(200)

1

$$\text{추력}(T) = \frac{1}{2} C_D \rho \int_0^L b v_n |v_n| \sin(a) dx$$

2

$$h(x, f, t) = a(f) \sin \left[2\pi \left(\frac{x}{\lambda(f)} - tf \right) \right]$$

, h C_D (200) , b , f (300) , v_n , (200) (200)가

1 2 '(A Computational Fluid Dynamics Study of Tadpole Swimming, The Journal of Experimental Biology 199, 1245-1260(1996), The company of Biologists Limited 1996)

(200)

(300)

가 가

(300)

(Duty ratio),

(300)

(ON/OFF)

)

(100)가

()

가

가

가

(57)

1.
;

가 ;

가

2.

1 ,

가

3.

2 ,

4.

2 3 ,

가

가

5.

2 3 ,

6.

1 3 ,

(IPMC)

7.

6 ,

(IPMC) 가 /

8.

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9. 1 ,

10. 1 ,

11. 1 ,

가 가

12. 가

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가

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가

13.

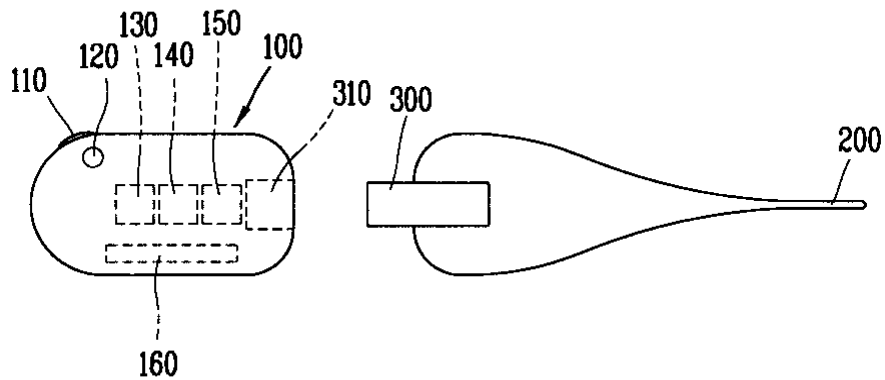
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가

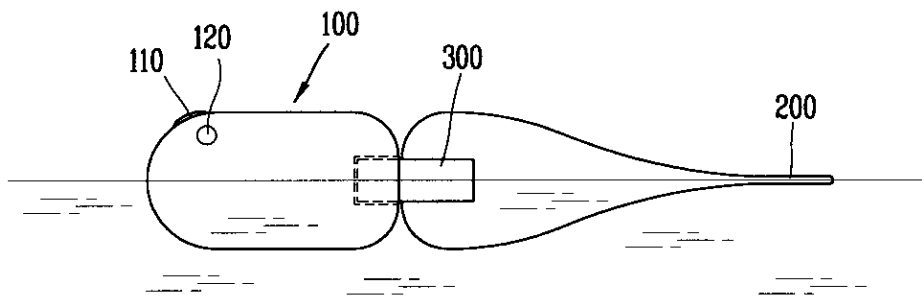
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가

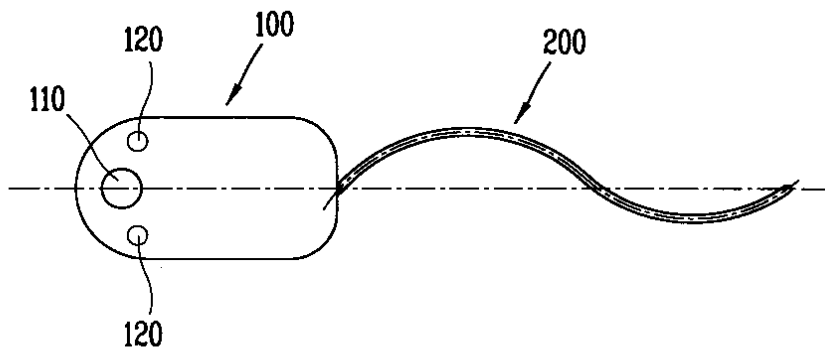
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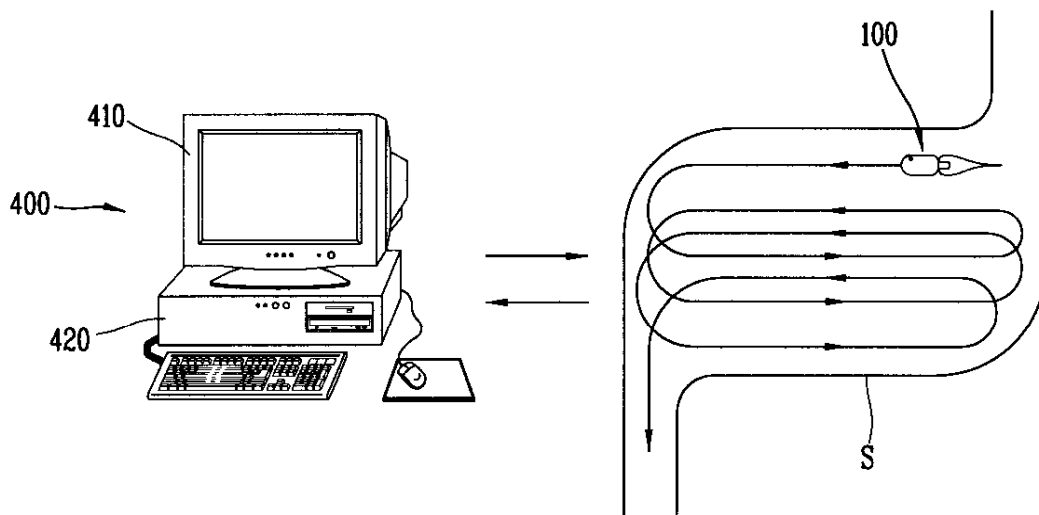
2



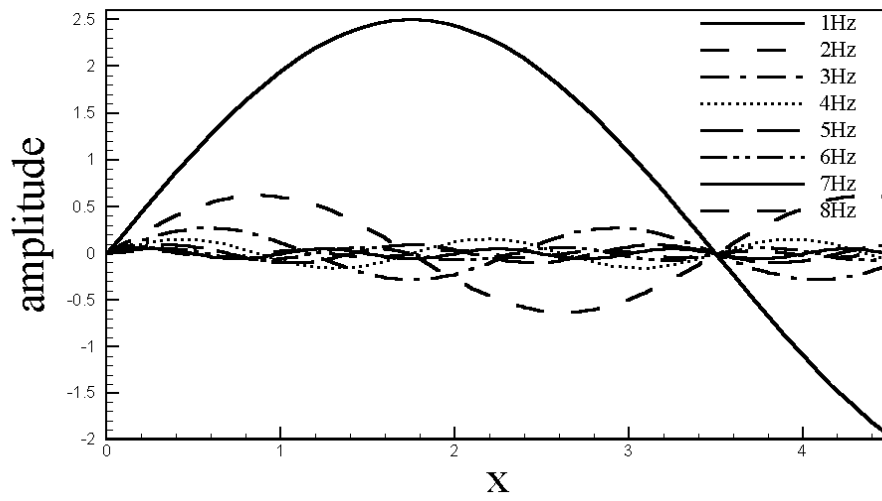
3



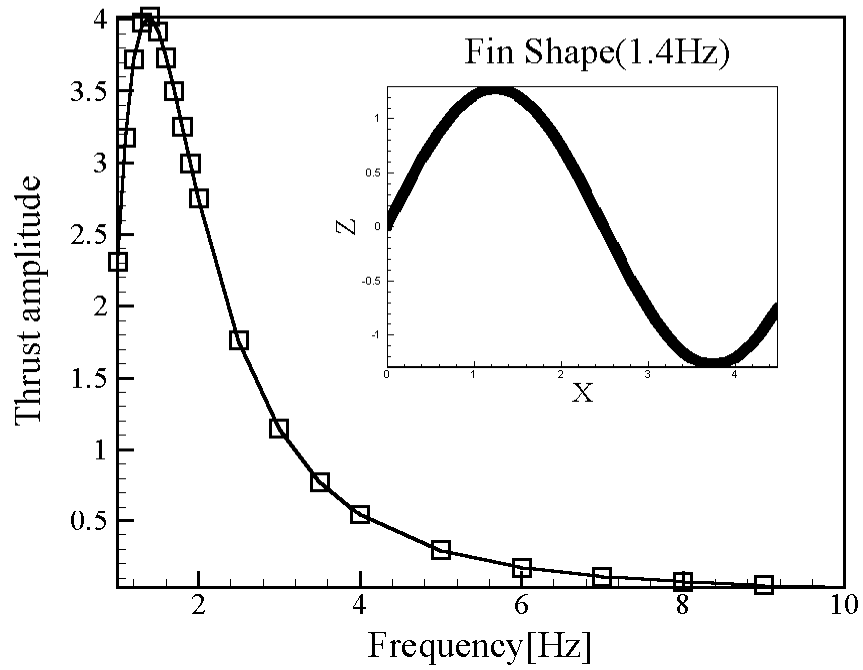
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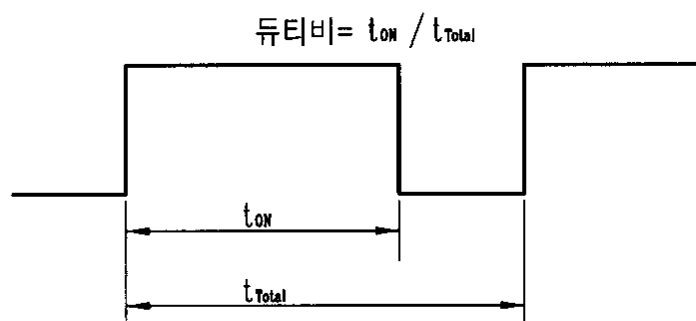
5



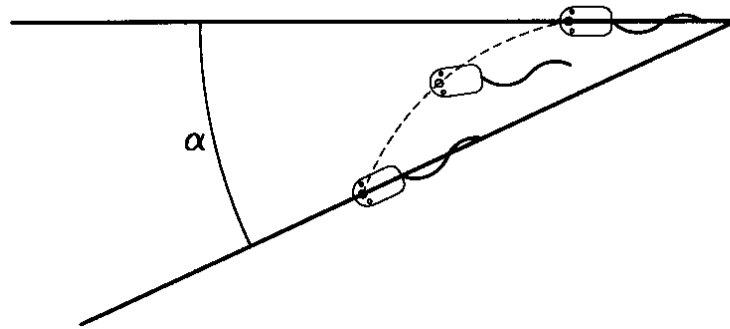
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7



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9

