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(B1)

(51) 。 Int. Cl.<sup>6</sup>  
H01M 10/08

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1997 07 31

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3 (11) (12)가 (14) 125 $\mu$ m (11) (12)  
 , O (10a) (10b) (10b) (bolted)( 3 (10a) ).  
 , LiPF6 1 /1  
 (13) (10b) (10) (10) 가 ,  
 m 2 (20) (20) 가 0.8mm 1.27m  
 53Ah 2  
 가 800 (20)  
 (20) 가  
 (20) 200 $\mu$ m 50 $\mu$ m . 800  
 가 2 600  
 (8) (20) (8)  
 ( ) ,  
 가 가  
 2 가 1

외부 단락 이후의 2차 전지에 대한 비교 중량 감소

예	내열성 다공성 막	중량 감소, %
실시예 1	폴리미이드 편칭 막	18
실시예 2	폴리미이드 섬유성 종이	24
실시예 3	불소 수지막+알루미나 입자	23
실시예 4	알루미나 섬유 클로스	17
실시예 5	운모 다공성막	20
실시예 6	유리 섬유 클로스	18
참고		128

1 , 가 18% 가 46 47  
 , 7 (14) 1 1  
 53Ah 2 1 128%  
 1 2 , 1 (20) 가 600 (unwoven) (web) 5  
 0 $\mu$ m 2 , 2  
 (20) 가 600 2  
 1 3 , 가 24% , 1  
 10 $\mu$ m (20) 가 , (hardening) ,  
 30%, 50 $\mu$ m 600 1 2 가 600  
 . 3 (20) 1 가 23% . 3

가 .  
 (20) 800  
 $Al_2O_3 : SiO_2 : B_2O_3 = 68:27:5$   
 80μm 11μm 80 (woven),  
 2 1  
 (20) 가 800 , 4 , 1  
 1 가 17% , 4 , 1  
 1 5 (10) (14) , 4 ,  
 (8)  
 (2) (3) 1 ( )  
 5 20 (2) (3) 가 0.49μm가 ( )  
 80M 140M 40.8%, 140M 200M 7.2%, 60M 80M(M: ) 4.5%,  
 200M 47% 34μm  
 (PVDF; polyvinylidene fluoride) N- -2-  
 (foaming process) , 50μm  
 , N- -2 (20) 109mmx270mm  
 25μm, 112mmx273mm  
 5 (3), (8) (2), (3)  
 41 , 40 (2) 80 , 3 (3)  
 (14) (2) (5a)가 ,  
 (3) (7a)가 1 , 46Ah 2  
 가 5 (20) 가 800 . 5 ,  
 1 가 20% . 5 ,  
 1 6 , 1 가 2 6 2  
 가 , 1 가 , 280mmx1,745mm (5) 2  
 mm (4) (7) (40) (6) , 1 가 , 283mmx1,750  
 , (7) , 287mmx1755mm (20a) (41) 25μm  
 (8) 2  
 6 , (20) 78 / (warp/inck) 73( / )  
 , 51μm 11% 가 .  
 6 (20) 5 , (41), (8) (20a),  
 (8), (40), (20a) .  
 , 6 , (44) (45) (41)  
 (40)  
 (46) 50mm, 300.5mm (47a) (47a)  
 (bottom) , 6 (47a) (44)  
 , (47b) (49) (50) (45) (46)  
 50 % 50 % LiPF6 1 /l  
 (47a) 가 (gasket)  
 (47b) (47b) , 2  
 0Ah (47) (47b)  
 (48) , 6 (44) (40) ( )  
 41) , (20) 가 800 (cloth) . 6

1 가 1 가 , 가 18% , 가 600

가 , 2 , 가 600 , 가 (micro-probe) ( ) ,

(57)

1. (multi-layer) (nonaqueous) (electrolyte) 2 (secondary cell)  
(fusible) (micro-porous film),

가 600

2. (woven) (nonwoven)

3. 2

4. 2

5. 2

6. 2

7. (polyimide) 2

8. (polyamide) 2

9. (fluoropolymer)

10. 2

11. 200 $\mu$ m 가 2

12. (pocket) , 3 가 (bag-shaped) 가

1 (pocket) , , 3 가 , 2  
가 , 1 , 2  
(intermediate adjacent surfaces)

13.

2 :

, 가 1 ;  
1 가 2 ;  
1 2 , 가 600 , 200 $\mu$ m ;  
가 2

14.

13 , 1 2 , 3  
2 .

15.

13 , 2 . (housing)

16.

1 , 2 .

17.

13 , 2 . (foil)

18.

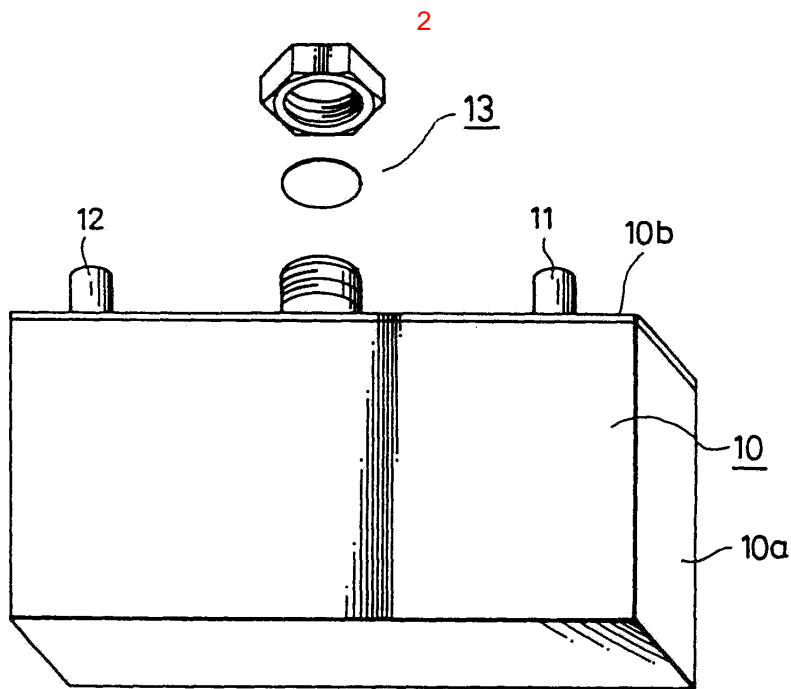
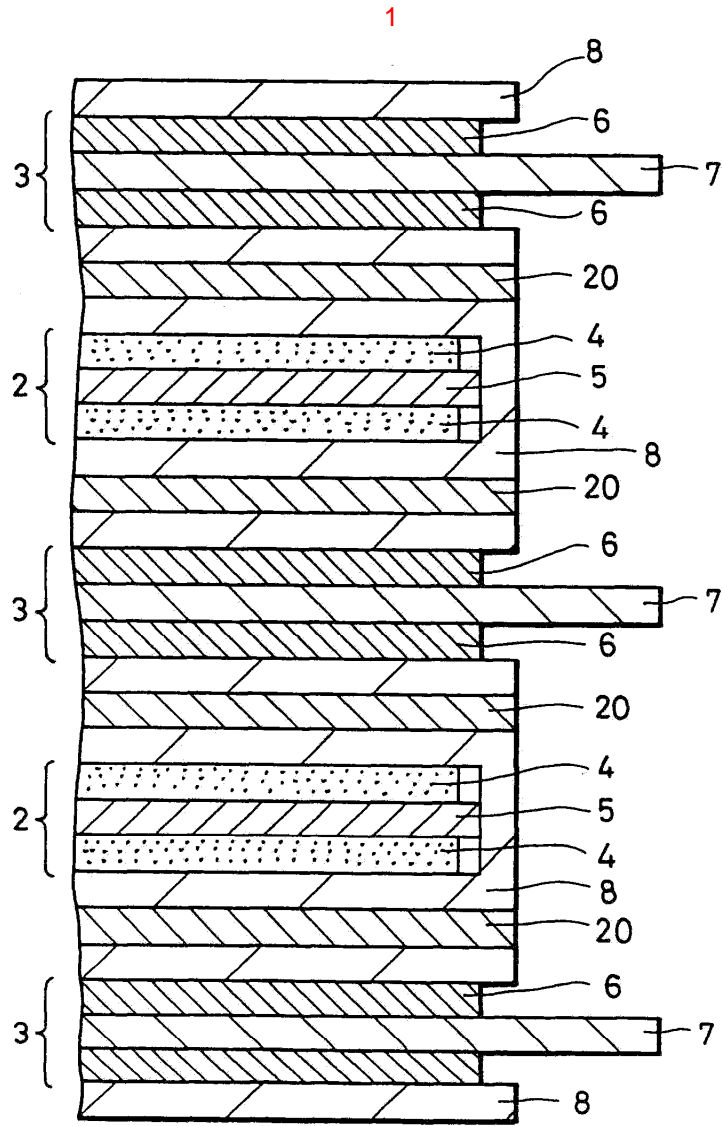
17 : 10 % (binder) 2  
90 %

19.

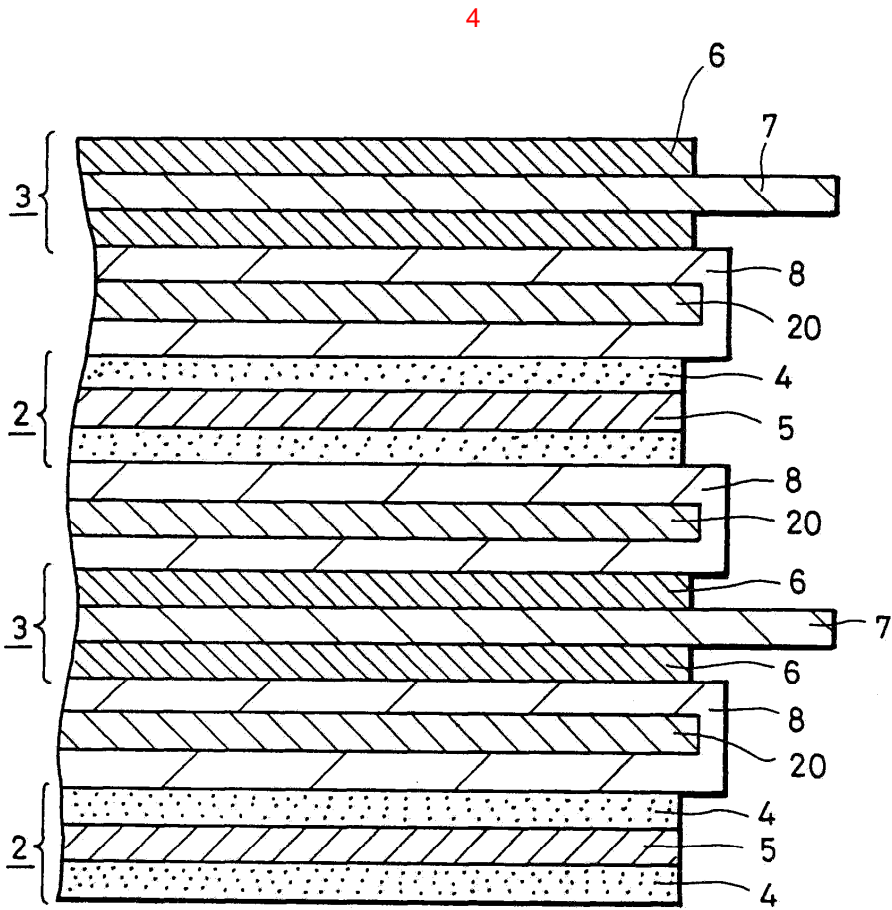
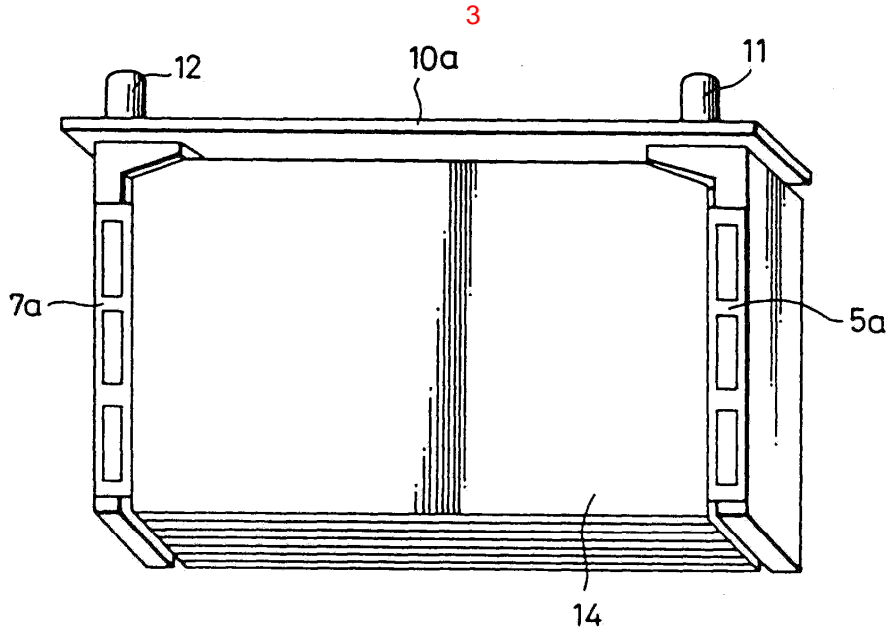
13 , 2 .

20.

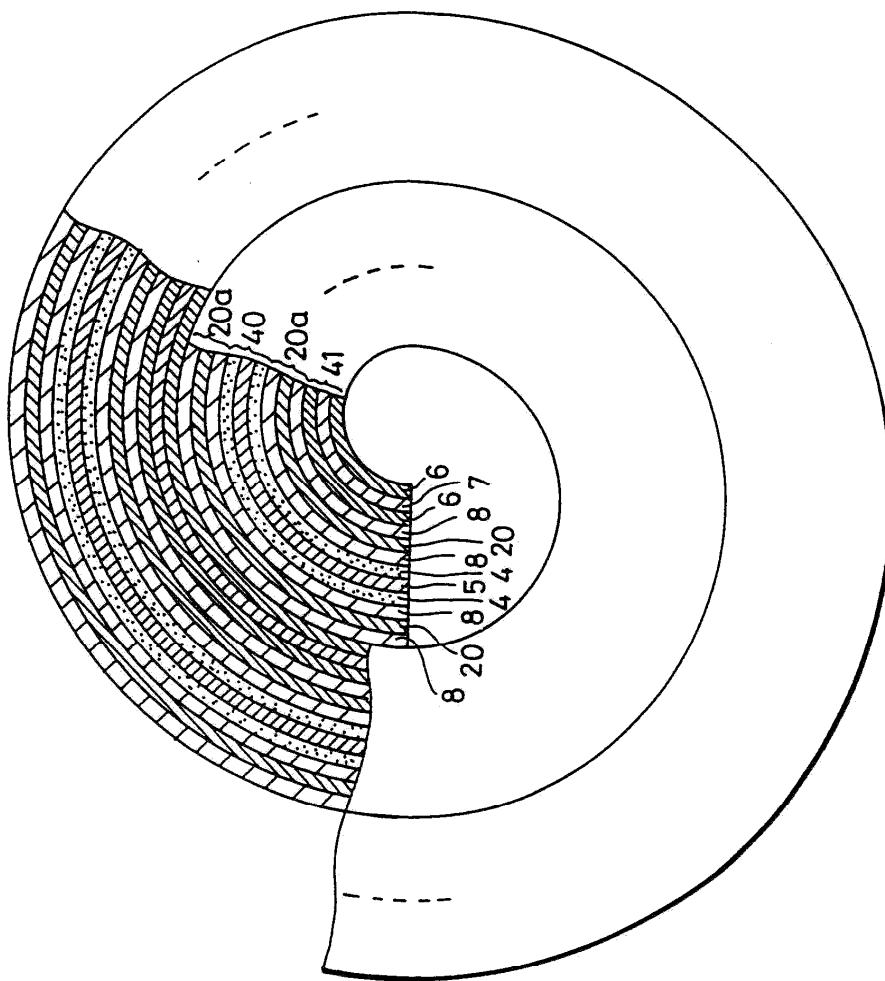
19 , 95/5 w/w LiCoO<sub>2</sub>/LiCo<sub>3</sub> 91 % ,  
6 % , 3 % 2 .

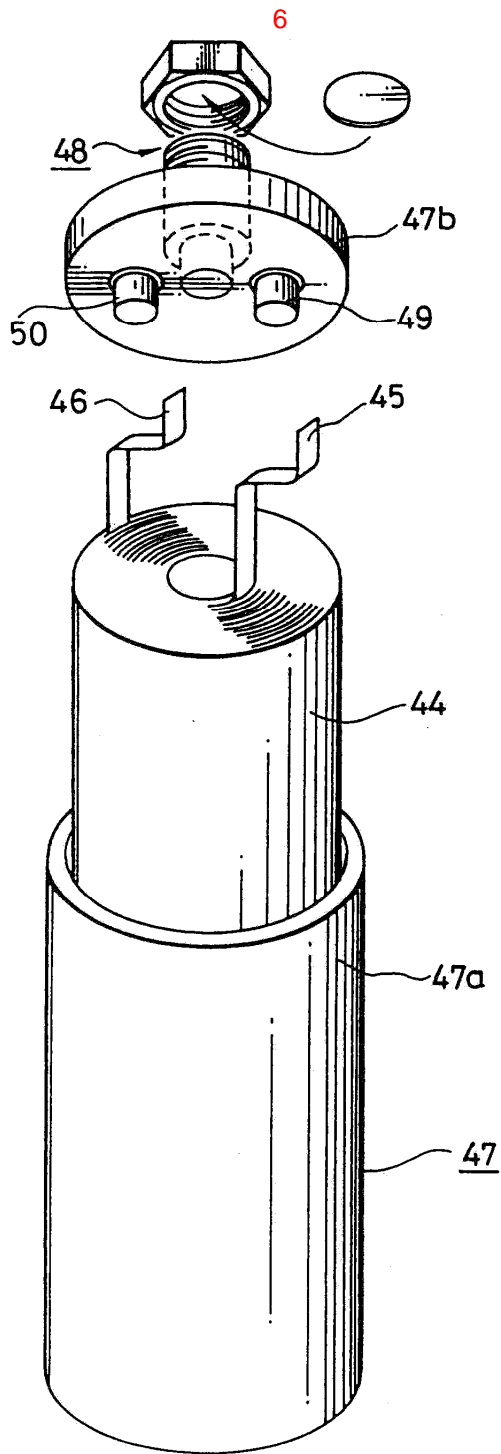






5





(종래 기술)<sup>7</sup>

