

(19) (KR)  
(12) (B1)

EA : ,

(30) 08/309,691 1994 09 21 (US)  
08/487,184 1995 06 07 (US)

(73) 94070 150

(72)

94001 1135

94546 #305 21103

94025 #1 965

94063 149

94019 324

1

(22)

(12)

(14)

가

가

(26) 가

1

1		
2	1	
	1/4	
3		
4a	2	
4b	4a	4b-4b
4c	4a	4b-4b
5		가

가

$$\begin{array}{cccccc} 13 & & & & & \\ 14 & 13 & & 180^\circ & & , \end{array}$$

15 13

16	16	15
17	16	
18	16	
19	16	
20		13
20a	13	
21	13	
22	13	가
23	13	가
24	23	가

26 25  
 27 13  
 28 27 , 가  
 29 27 , 가

&lt; &gt;

11 :  
 12 :  
 14 :  
 16 :  
 18 :  
 20 : 가  
 40 :

, (肺) , 가

가 , (丸劑; pills), (elixir)  
 가 (消化管; digestive tract)  
 가 (proteolytic enzyme)  
 가 (皮下注射; subcutaneous injection)  
 (systemic drug delivery)  
 (insulin)  
 (鼻腔內; intranasal), (直腸內; intrarectal), (陰道內; intravaginal)  
 (肺)  
 (經皮; transdermal), (齒槽; alveolar))

(MDI) (liquid nebulizers),  
 (lyophilized o  
 spray-dried powders)  
 가  
 가 , 1  
 가  
 가 , , , ,  
 가

1 $\mu$ m 5 $\mu$ m  
 가 20psig 150psig  
 , 2M $\ell$  25M $\ell$   
 가  
 ,  
 ,  
 가  
 (丸塊; bolus)  
 /





가  
가 , 가 , / 2  
(displacement air)

(dispersion station) 가

가 12.5° 65° (내腔; lumen)  
 90% ( 80%,  
 가 ( 2 , 가 ,  
 , , , , , , ( ) 가  
 ( ) 0.5mm<sup>2</sup> (A<sub>1</sub>) 0.05mm<sup>2</sup> 0.3mm<sup>2</sup> , 가 ( )  
 (throat) mixing volume) 10mm<sup>2</sup> (A<sub>2</sub>) 0.6mm<sup>2</sup> 11mm<sup>2</sup> 0.5mm 3mm  
 0.6mm<sup>2</sup> (A<sub>3</sub>) 15mm<sup>2</sup> (A<sub>4</sub>)  
 ,  
 (diffuser tube) 가 , 0.5cm 5cm 가 2° 10°  
 , ( ) 4 가  
 가

ointed tab)

가 가

(p)

4

가

가

, 가 가  
(transjector assembly)

가

가  
가

(interface seal)

가

가

가

,

(detent)가

(notch)가

(付勢)

가

V

(ridge)

(rib)가

가

(mouthpiece)

가

가

(bleed valve)

가

가 가

가

가

(keyed hole)

가

가

가

가

가

가

가

가

가

가 가

가

가  
가가  
가

가

가 가





(90) (94)(6)	(40) ,	(90) ,	가	,	(30) (30)
" " " (12) (44) (30)	(14) (96)	(96) (98)	( 가 (44) (44)	(95)가	
(12) ,	(32) (14)	(40) (16)	(	,	,
90% ) ,	,	,	,	,	80%, (94) (46)
(100) , 1	7	9	(14)	(100)	(14) (
100)	,	,	,	,	
(110), (114) (118)	(100) 가 (100)	(102), 가 (112) (106) (114) (116)	(104), (106) (118)	(106), (14) (116) (14)	(108), (104)
8 가 100mm <sup>2</sup>	, 1	, 10	(104)	, 5mm <sup>2</sup> 150mm <sup>2</sup> , 120mm <sup>2</sup>	40mm <sup>2</sup>
(120)	(120) 가	8	,	,	가
가 120) (124) (chase)"	가 (126)	가 ,	(102)	(122)( 9) (120)	가
(108) (126)	(128) ,	9 가 (110)	,	(126) (102)	(110)
4) (114) (106) 10 11a (140)	(102) (102)( 7)	(108) (130) (130) (14)	(106) (114)	9 ,	(100) (140)
11a (106) (144) (146) (144)	11a (142)	가	,	(144) (146)	4
(150) (100) 가 (112)	(104) (本管; host tube)	(150)가 (152)	(150) 10 가	(150) (151)	(140) (151)
11b 2 ,	1 (153) 가	가 (153)가	,	(151)	(151)



14	,	(304)	(304)가 (330)	,	(330)	(344)	가	(344)	(304)	,	(344)
)	(304)	(306)	가	(330)	(346)	(304)	(346)	가	,	,	,
(344)	(344)가 (304)	가	(bleed valve)	"1 (吹氣)(puff)"	가	가	가	,	,	,	,
(304)	50Mℓ	750Mℓ,	가	(304)	,	100Mℓ	250Mℓ	" $P_1 V_1 = P_2 V_2, T =$ "	,	,	,
.	(Boyles' law)	,	,	,	,	,	,	가 (net gas)	,	,	,
(346)	8Mℓ	210Mℓ	가	,	8Mℓ	가	0.6 psi	0.6 psi	가	,	,
.	가	(thin mylar)	가	,	0.6 psi	(petal),	,	(plate)	,	,	,
,	(346)	,	,	(346)	,	,	,	,	,	,	,
15	,	(302)		(306)가		(348)		(348)		(302)	
)	(306)	(keyed portion)(352)		(348)		(350)		(350)		(306)	
(348)	,	(350)	,	,	,	(306)가		(354)가		(306)	
.	(306)	(348)	,	,	,	(354)가		,	,	(354)	
(356)	,	(354)	,	(354)	,	(354)가		,	,	(306)	
.	(306)	,	,	(354)	,	(306)	,	,	,	(302)	
,	,	(354)	,	,	(306)	,	,	,	,	(348)	
)	16	17	,	(342)		(106)				17	
가	,	,	,	(306)		(358)	, 가	(360)	,	(3)	
62)	,	(364)	,	(366),		가	(368)		,	(306)	
.				(306)		7	9			(100)	
,				(370)		(370)				(372)	
,				(100)		(362)		,		(370)가	
,				(100)		(342)				(342)	
,				,						(372)가	
372)				,				(306)			
21,	23	24	가	,	,						
		가	,	가	,	(372)					
18	19	가	,	가	,	(372)					
80)		(374)	,	(342)	,	(378)					
		(382)	,	(380)	,	(342)	,	(342)		(376)	
(376)		,	19	,	,	(370)		(372)가		(376)	
		(342)가	,	(	,	(306)가	,	(372)		(376)	
(342)가	,	,	12a	12c	가	(376)		(372)가		(362)	
					(184)					(306)	
가	(342)	,	(374)		(100)					(362)	
20	20a	,	(340)		(370)					(306)	
80)	,	(374)	,	(342)		(372)가		(372)가		(342)	
		(374)	,	(340)		(375)가		(377)( 21 )		(342)	
		가	,	(340)		(382)		(386)		(442)( 22 )가	
(368)		( 19 )	,	(380)		(386)		(386)		(342)	
가	,	,	(380)		(304)			,	(380)	(342)가	
(300)			(304)가						(304)	(342)	
가	(300)								(386)	(342)	가
											(300)

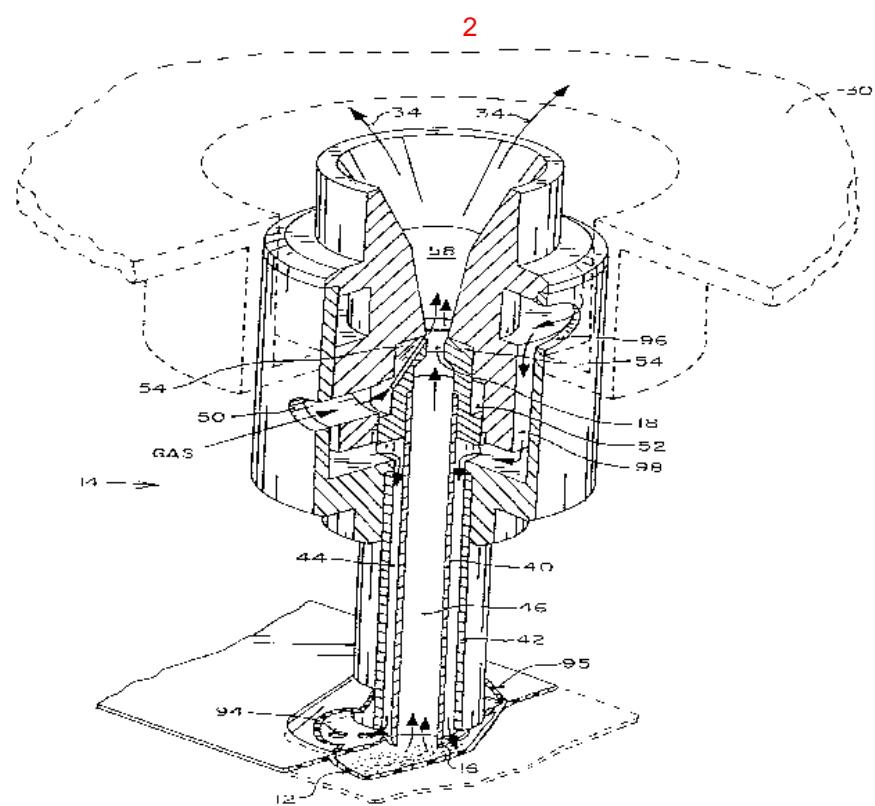
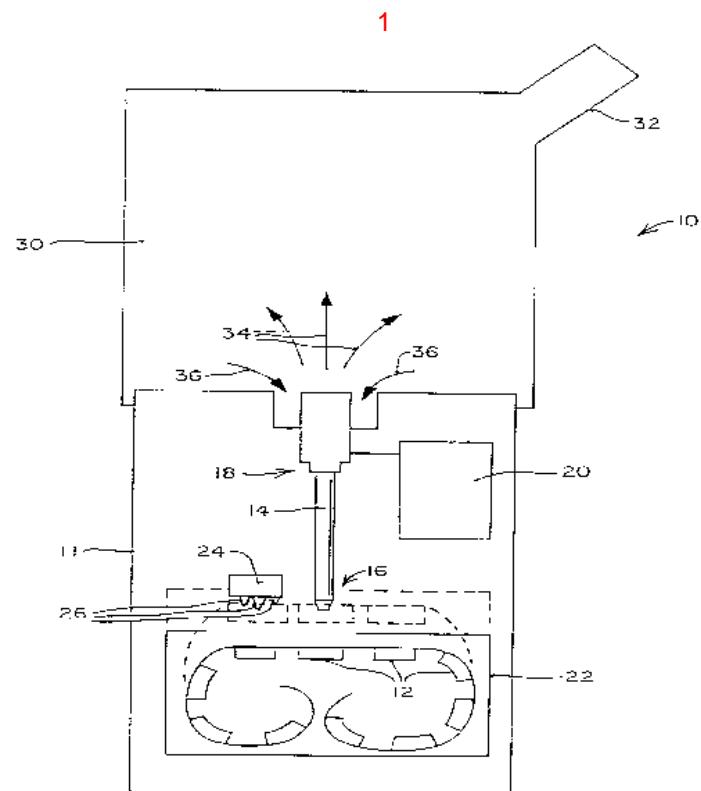


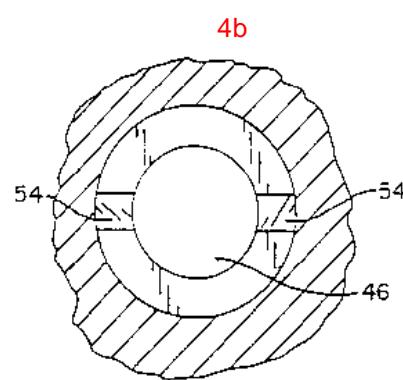
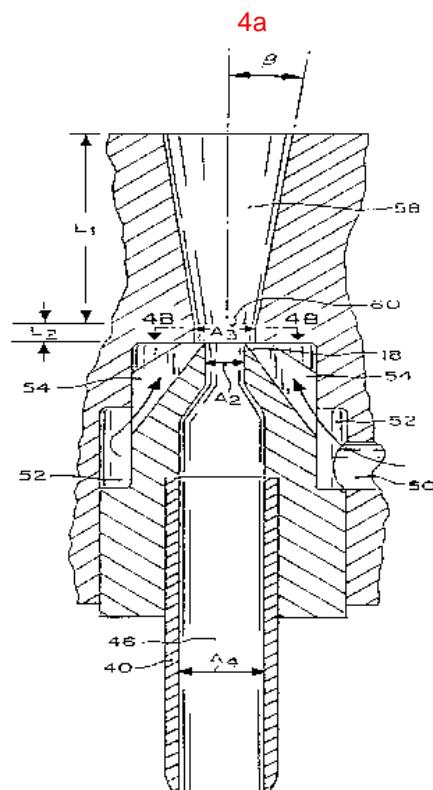
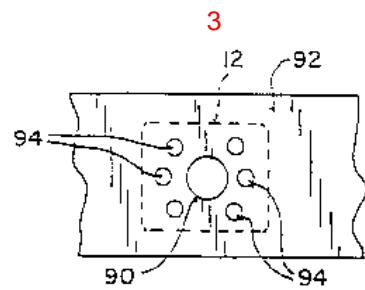
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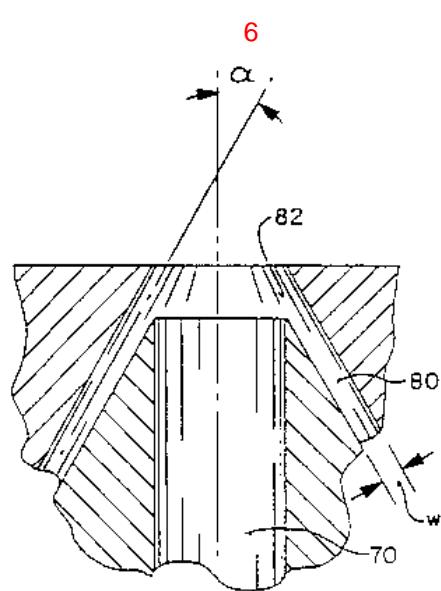
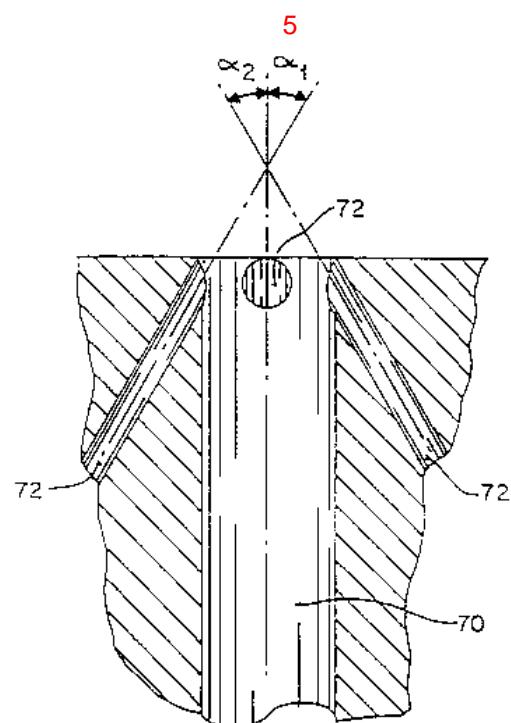
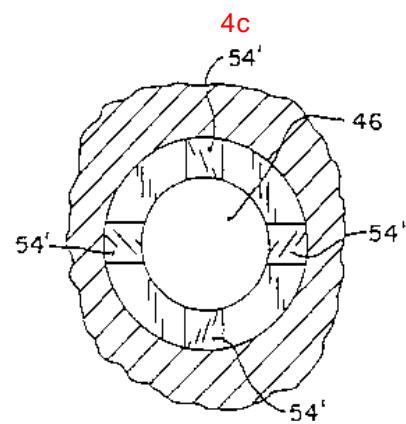
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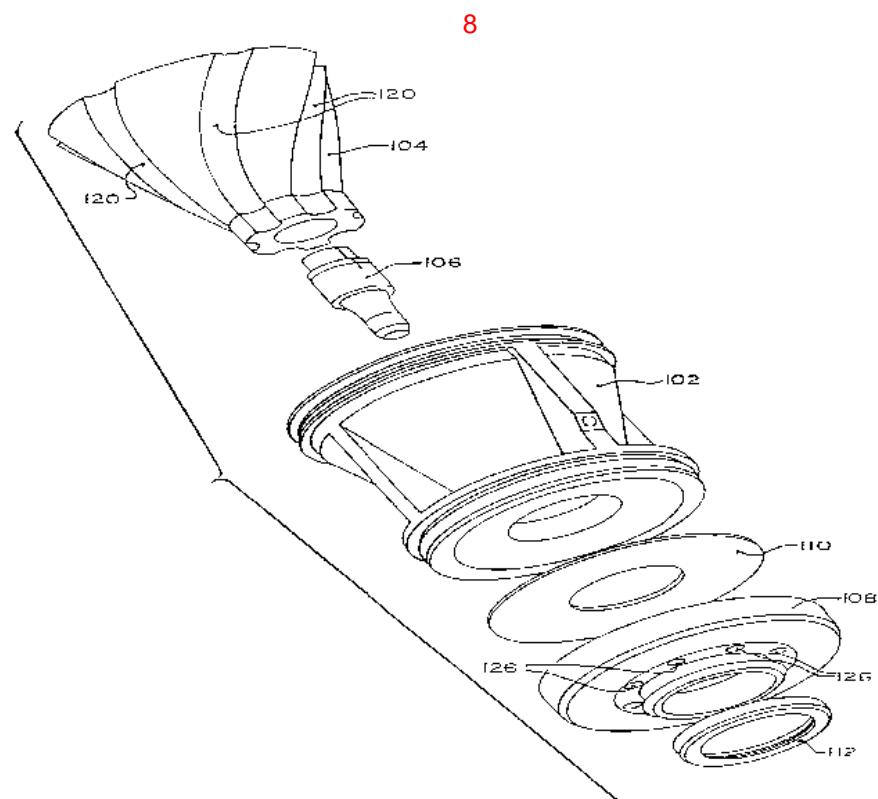
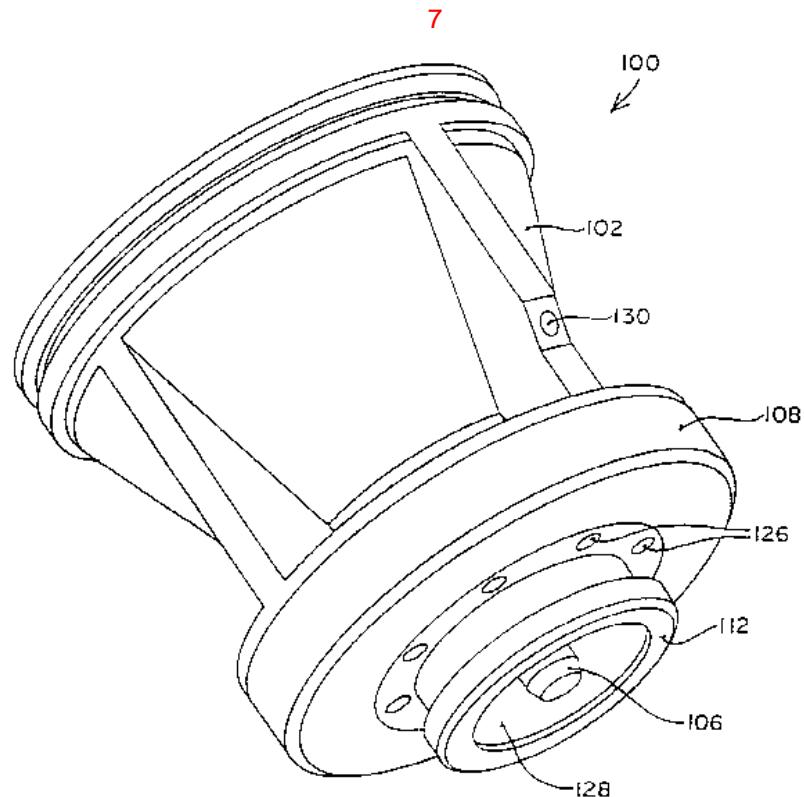
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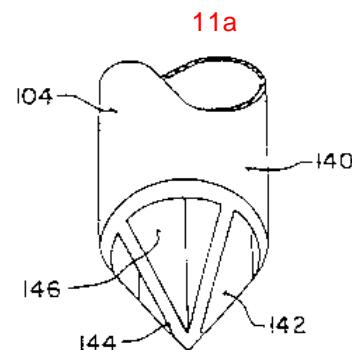
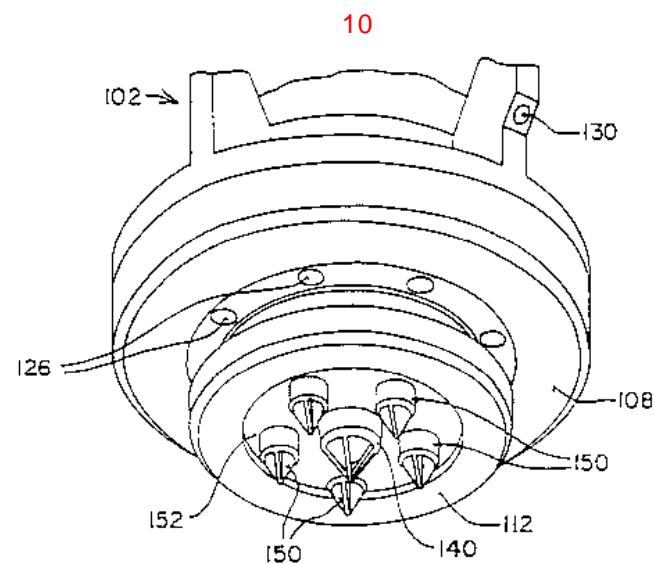
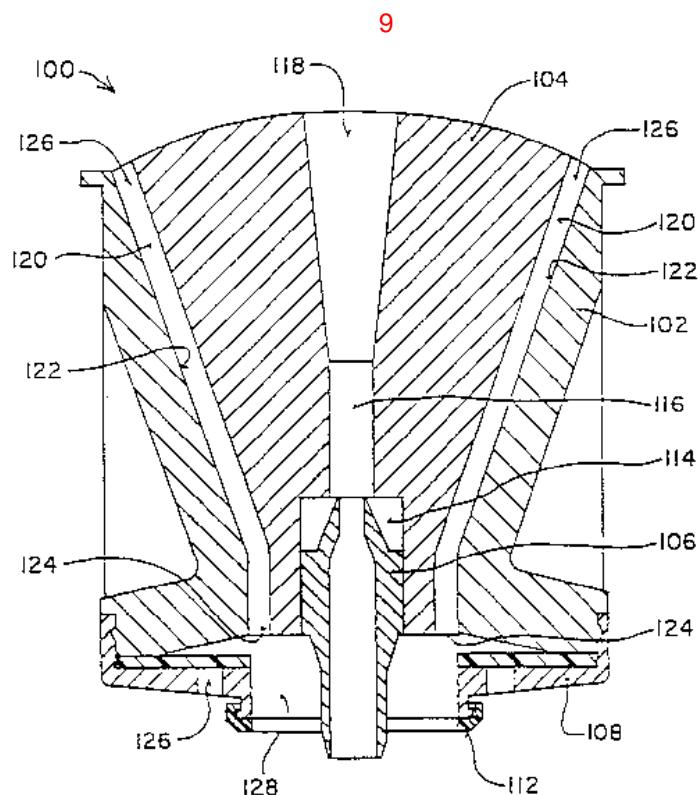
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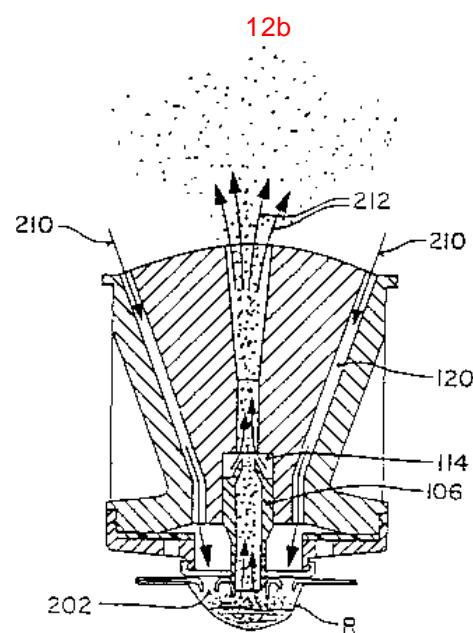
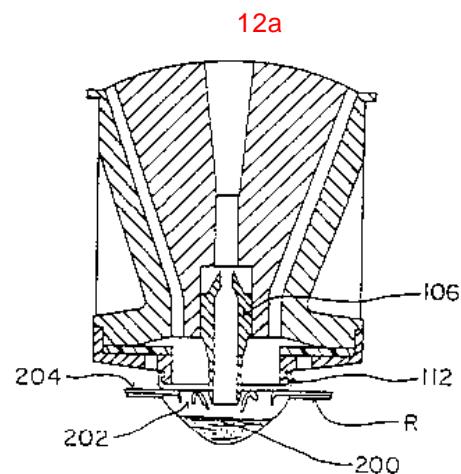
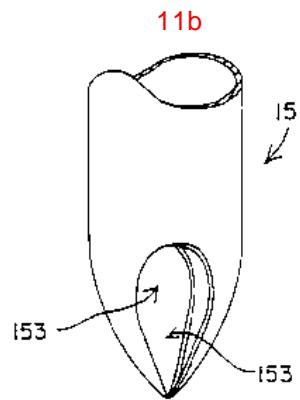




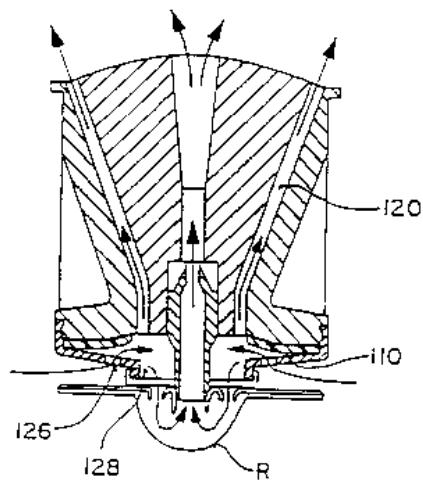




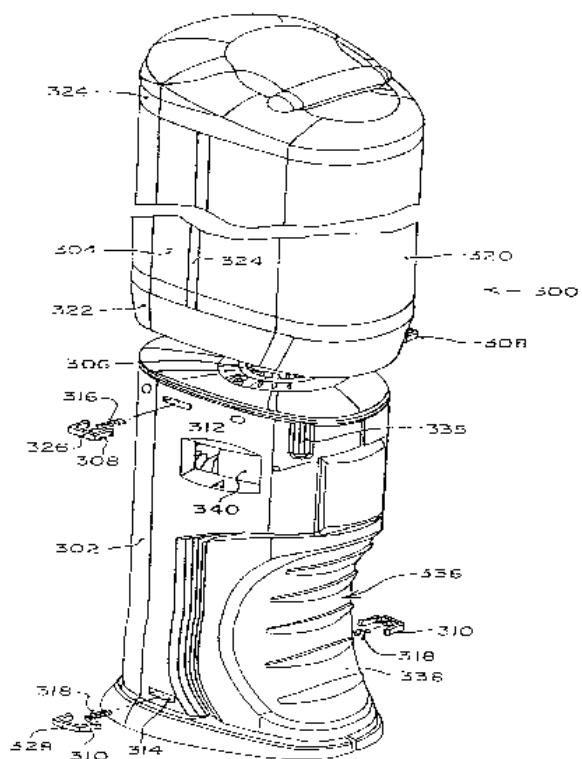




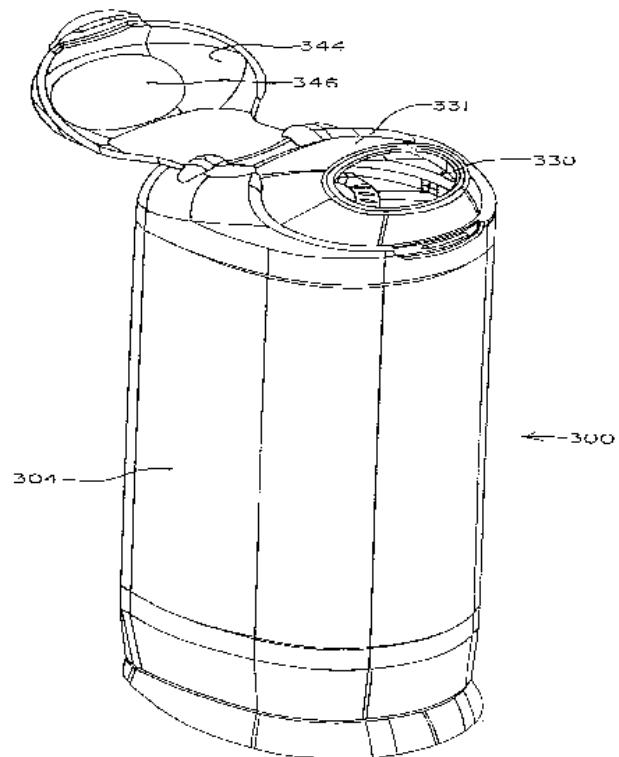
12c



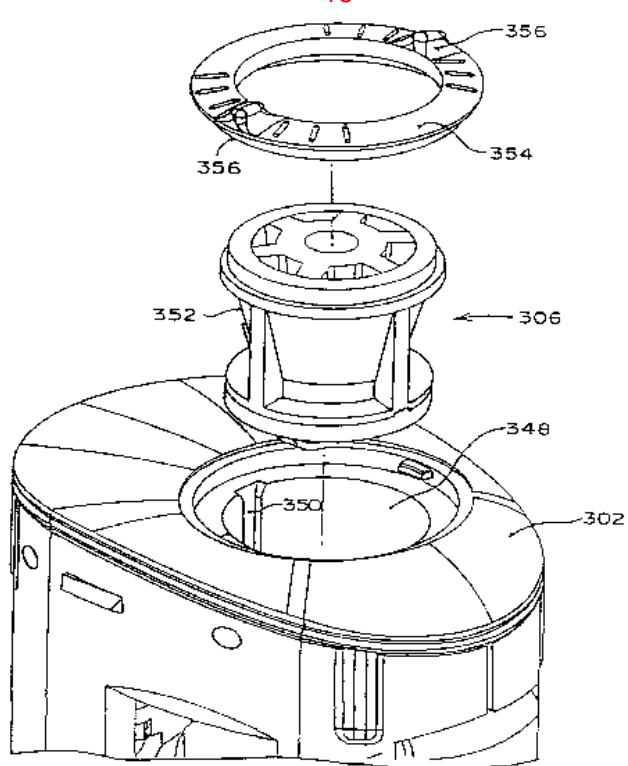
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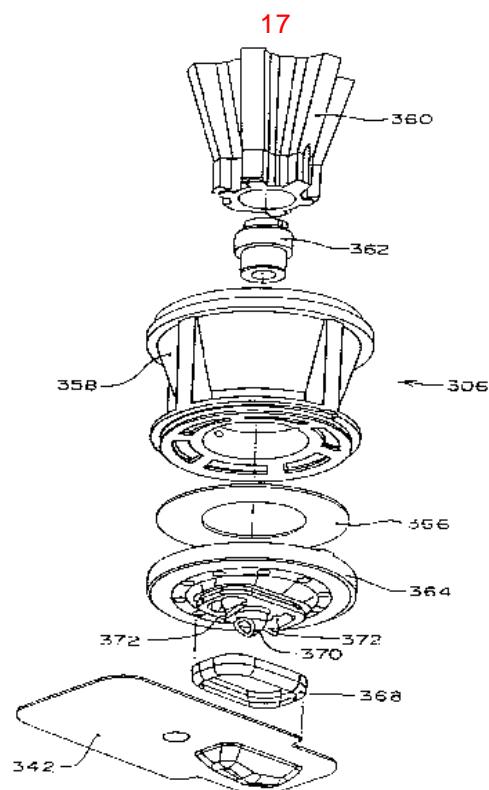
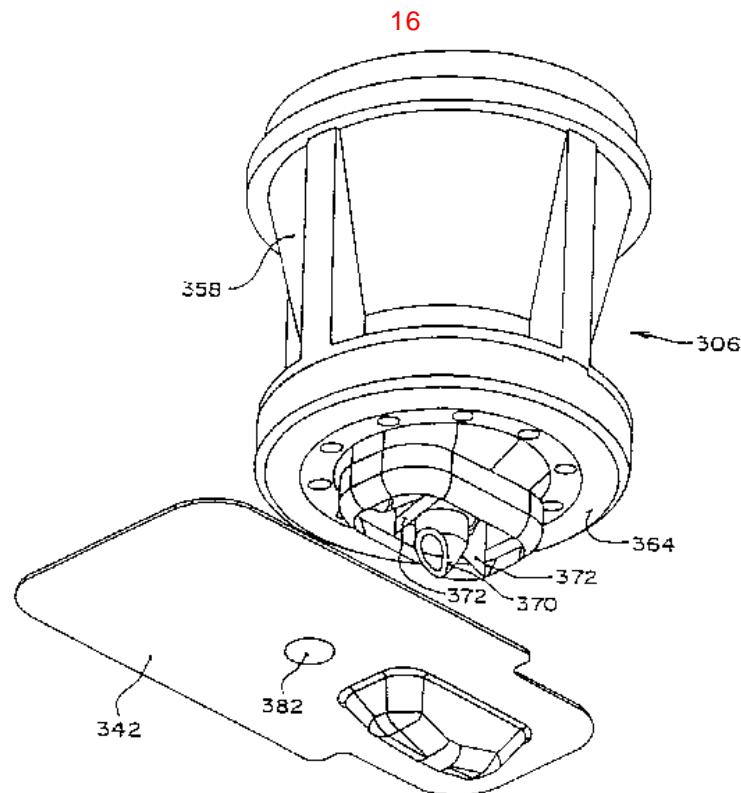


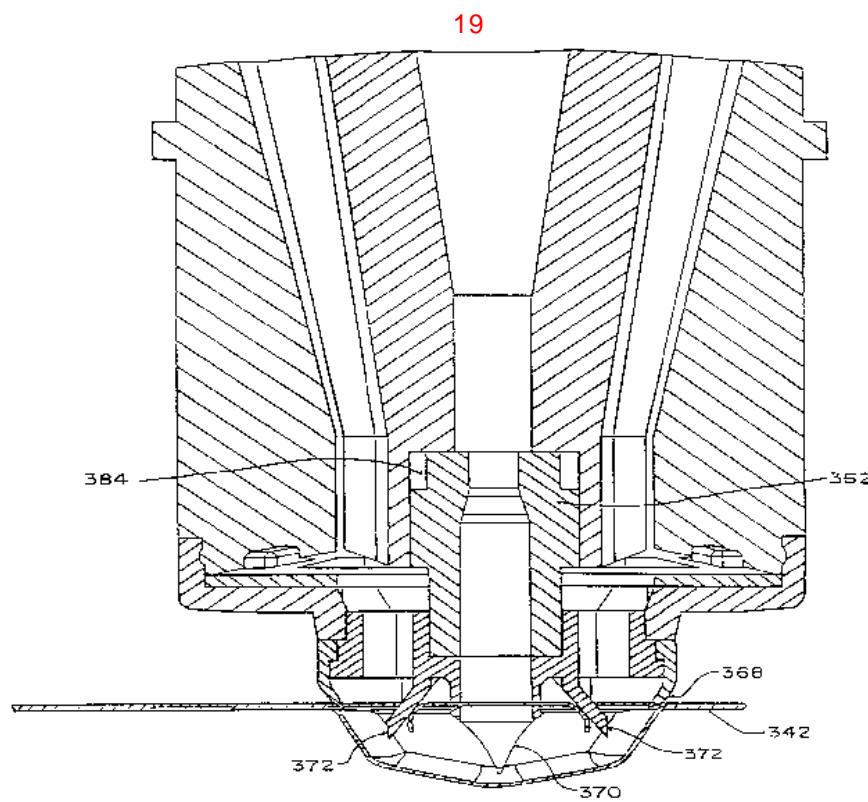
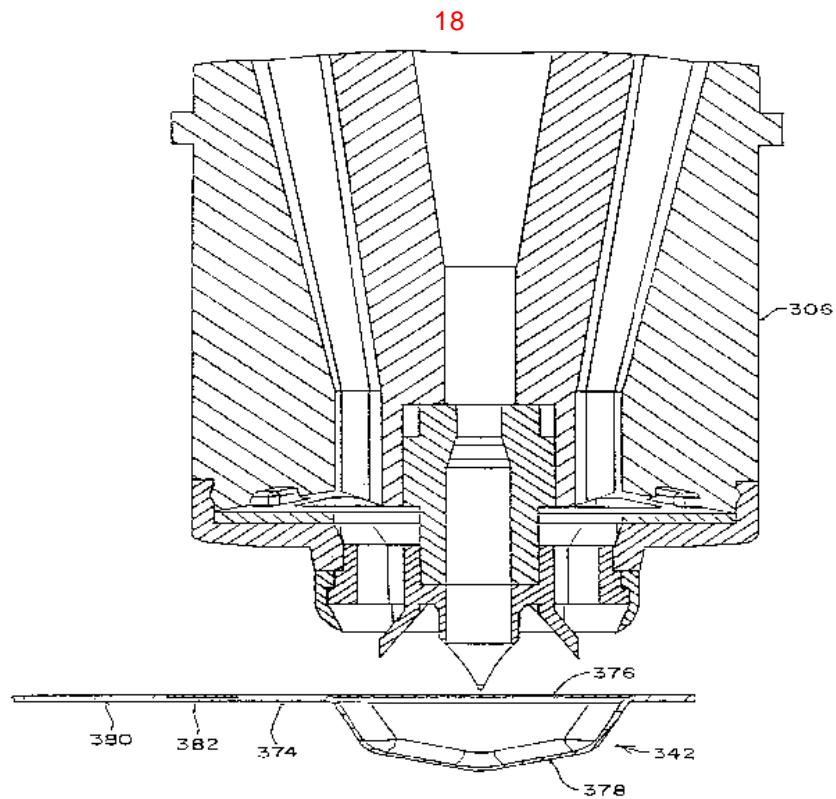
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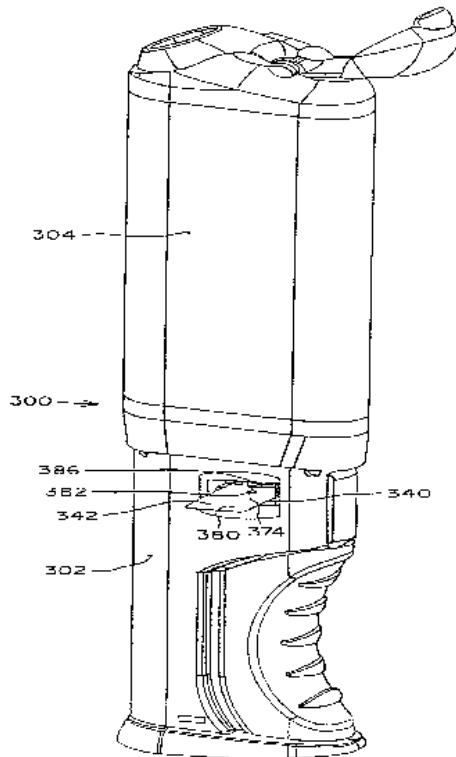
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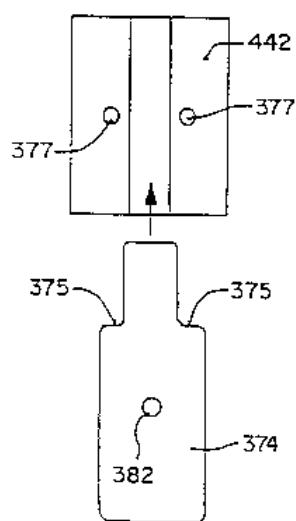


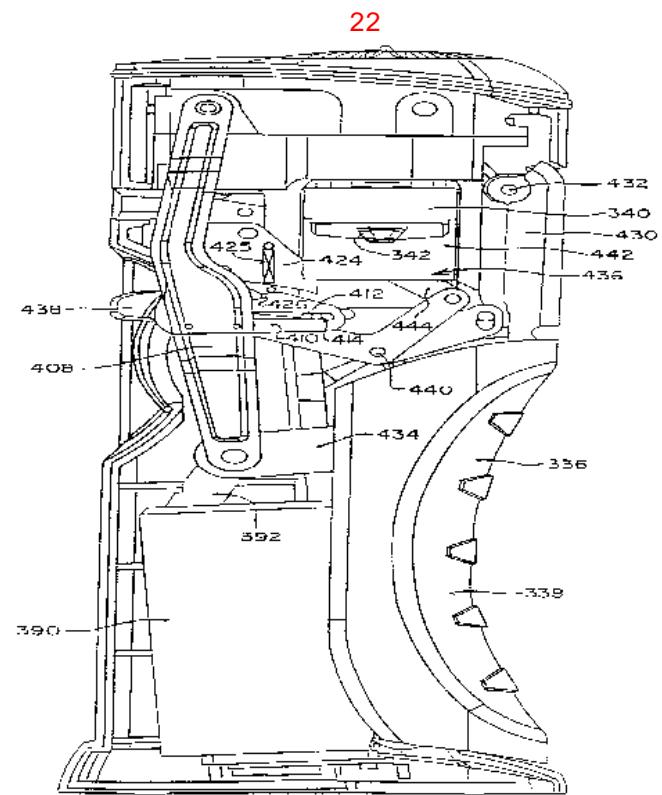
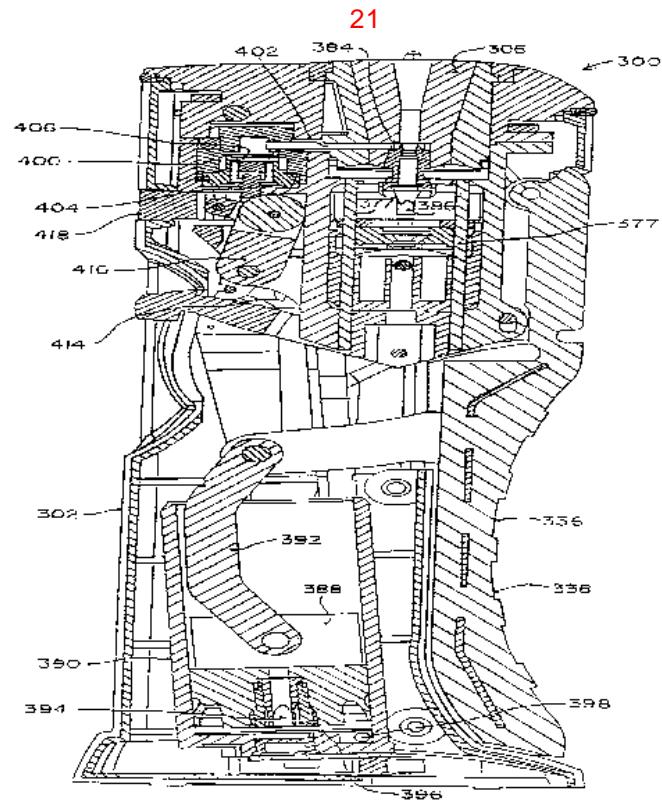


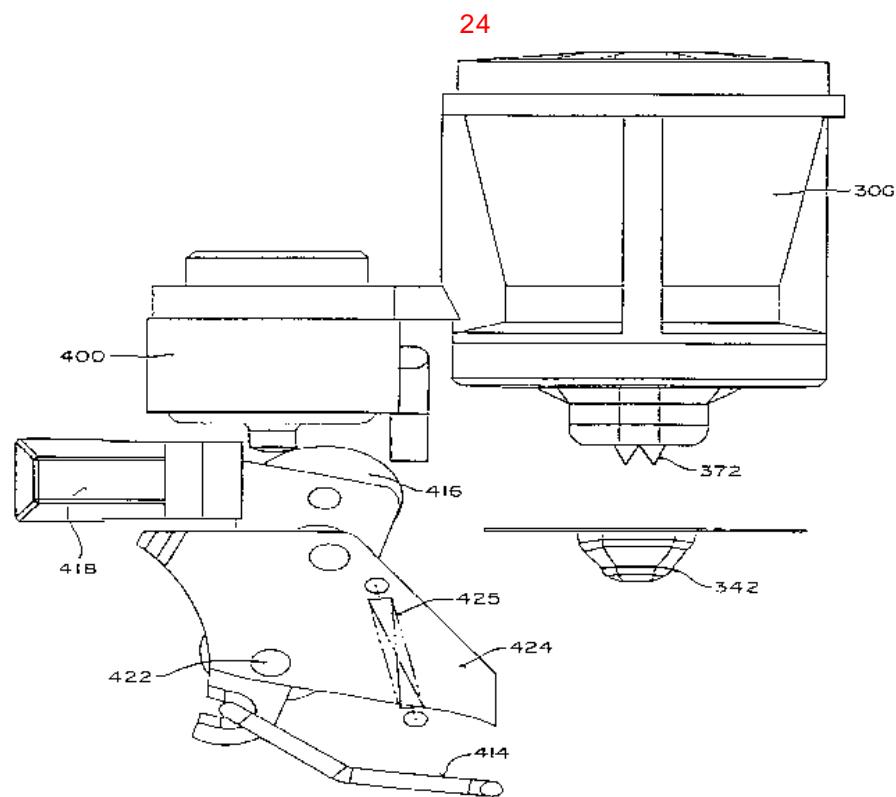
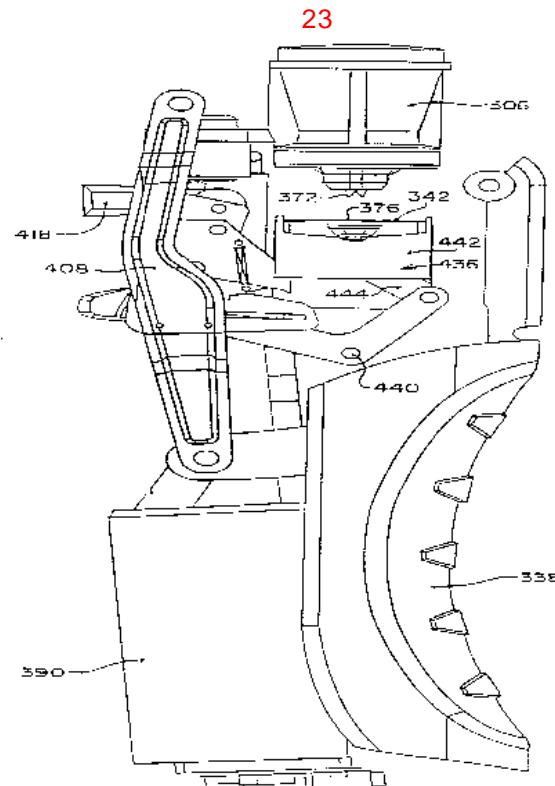
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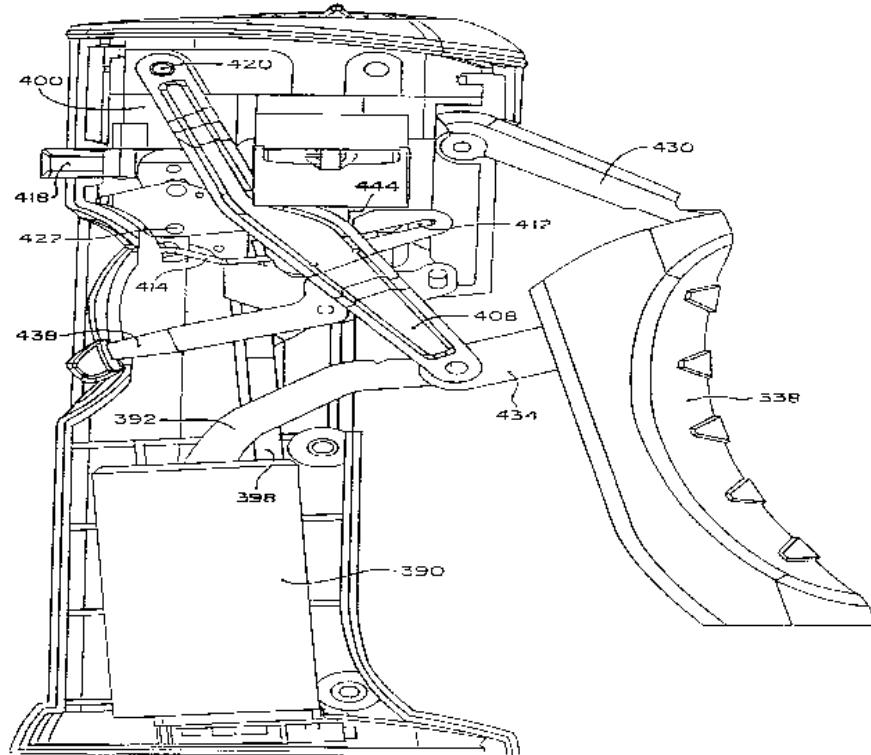
20a







25



26

