

(19)
(12)

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(Y1)

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(24)

2001 10 29
20 - 0244341
2001 08 14

(21) 20 - 2001 - 0015207
(22) 2001 05 23
(62) 2001 - 0028493
: 2001 05 23

2001 05 23

(73) 가 483 - 42

(72) 가 483 - 42

(74)

:

가 :

(54) 2

가 2 가 , ; 가 ;
; 가 ;
가 ;
(1 batch)
'Z' 가 ;
가 .

1

1

2

2a 2b 1

3 1

4 1

5a 5b 1

6a 6c 1

7 1

가 'Z'

8a 8b 1

9a 9b 8

10a 10b 8

11a 11b 8

12a 12b 8

13a 13b 8

14a 14c 8

15a 15c 1 8 1

16a 16c 1 8 2

17a 17b 1 8

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102... 104... 106...

110... 112,114... 116,118...

120... 131,133... 136,138...

135,137... 141,143... 142,144...

152,154... 210.. 211...

212... 214... 216...

220... 213... 215...

230... 232... 234...

240... / 242... 250...

262... 264... 270...

280... 290... 310...

311... 313... 320...

330... 340... 350...

360... 370...

2

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1

2

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PC

가

가

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2

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2

가

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2

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2

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'Z' (batch) ,
 , ' ,
 가 2 .

가 ; 가 ; 가
 ; 가 , ;
 ; 가 'Z' 가 (1 batch) ;
 가 ; .

2 ,
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2 , :
 가 ;

가 ,
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2 , :
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2 ,
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2 ,
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2 ,
 1 .

2 , 가 가
 , 가

2 , :
 .

2
가 , , .

2 , , .

2 , / :

'Z' ;

가 ; 가 ;

;

가

가 2 , / :

가 .

2 : 가

1 ; 1 180 2 180 .

2 , 2

, , .

2

1 2 .

1 , , ()

(300) (311)가 가 (313) (301) 가

(315) 가 (310) , (311) (320) , 가

(313)

(311)

(330) , (310) (311) (313)

(311)

(340) , (1 batch)

(330) (340) (311) 'Z' 가

(311)

(350), (311) (370) (360)

가 (301) (310) (320)가 1 (303) , (330)
 2 (305) , (340), (350), (360) (370)가
 3 (307)

(300) (301) (300) (309)가 (300)

(301)

(301)

2a 2b 1

2a 2b , (310) , (315) , (311)
 가 가 (317) , (315) (311)
 (311)

(315) (311)

(340) (347) (312)

(PE) (PP) (311) , 가 가
 (311) 가

가 (317) (301) (314) (311)
 (319) (314) 가 (316)

(319) 가 (317) (313)
 (316) (315) (315) (311) (311) , (310)
 () (316) (311) (311)

(310) 가 (317) (311)
 (318) (318) (313) (318a) (301)
 가 (318a) , (313) (318c) (318a)
 (318b)

3 1

1 3 , (320) (301) 가 (313)
 (321) , (323) , 가 (321)
 , (325) .

(313) (320) (311) 가 , (321) (LM)가 , ,
 1 1 (327) (301) 가 .

() (325) (Inkjet Marking) , ,
 a) (311) (325a) . (325) (325)

4 1 가 .

4 , (327) () 가 .
 , , (string)
 (325a) (311) (325) (325a) 50 - 300 μ m . ,

3 , (325) (313) , 2
 (325) (311) (311)

, (311) , (311)
 (329)가 (329) 가 가 ,

1 2b , (320) (340) 가 (322)가
 . 가 (322) (320) (311)가 (1) .
 , (313) (311) 가 (320) (3)
 가 (322) (301) 가 (324) , 가 (26) .

40) 가 (324)

5a 5c 1 , , .

1 5a 5c , (330) 가
 (311) ,

(114) (330) (102) (104) (112)
 (114) 가 , (110) , (112)
 (114) (301) 가 (122) (12)
 4) (120) , (110) (102) (104)
 (311) , (122) (124)

가 (132) (134) .

가 (110) 가 () , 5 6 가 (311)

(311) (116) (118) . (116) (118) 1
 (313) (116) (301)
 (118) 2 가 (116) (116)
 (118) 가 (102) (116)
 (foil) 가 LiCO₂, LiMn₂O₂ (104)
 가 (104) (mesocar
 bon microbeads, MCMB) - (meso - phase pitch carbon film)

(116) (118) (102) (104) ,
 ('Z' (112) (114) (112) (114)) 12
 (113) (113) (301) 가 (114)
 (106) (108) (136) (138)가
 (113) (136)(138) (112) (114)
 (313)

(131) (133) (131)(133)
 (112) (114) (102) (104)
 (136)(138) (131)(133) (102) (104)
 (135)(137) , (135)(137) (136)(138) 가 ,가

(110) (116) 가 (118) (102) (104)
 (142) (144)

(142) (144) (116) (118)
 (143) , (102) (104) (146) (141) (1
 43) (148) 가 (148) (102)
 (104)

(106) (108) (152) (1
 54) (301) (152)(154) , (301)
 (156) (158) , (301) 가
 (106)(108) (151) (158), (158)

(153) .

(120) (313) (116) (108) 90 .
(122) (124) (301) (121) , (313)
(121) (123) , (123) 90
(121) (125) .

04) (130) (116) (118) (102) (1
(311) 가 (311) (122) , (124) (110) 가

(130) (139) 가 (331) , (102)
(104) (31) (333) .

6a 6c 1 , , .

1 6a 6c , (340) (311)
(341) (311) (301) 가
(343) .

(343) , (345) 가 .

(340) (311) (313) ,
(310) (347)가 (347)
(310) (315) (311) (311) , (311) ,

(350) (230) (340)
(311) 7 , (311) 'Z' 가

8a 8b 1 .

1 8a 8b , (350) (301) , (102) (104)
(1 batch) (311)가 (210) (210)
, 가 (210) (311)가 (212) (220)가 (214)
(311) 'Z' 가 (212) (220)가 (214)
(311) (230) , 'Z'
(311) / (240) .

9a 9b .

9a 9b , (210) (301) (216)
 (212) , (311) (212) 가 (216)
 (211) 가 (218) , (212) (216)
 . 가 (218) (313)
 . (211) / (240) (245)가 .

, (210) (212) (311)가 'Z'
 (311)가 (220) (311)
 (213) . (213) (311)
 (215) .

1 10a 10b , (220)
 (210) 가 (214) (212)
 (311)가 , (301)
 (222) (301) 가 . (220)
 (224)가 .

02) (230) (214) (311) 가 (1
 2) (104) (311) 'Z' (10
 (104) . (230) (214) 가
 (232) , (232) , (220)
 (234) , (batch)
 (220) 1 , (232) 가 ,

/ (240) (210) 'Z'
 가 (242) , (242)
 (250) , (210) (311) (301) 가
 (262)가 (264) (270) , (262)
 (262) (301) (280) , (242)
 (290) , (250) (262) (301) 가
 (270) (311) (301) 가
 (244) .

11a 11b , (242) (301)
 . (242) . (LM) 가 (246) 가 (248)
 (210) , (241) , (212)
 , (211) (243)

	(241)		(245)		
12a	12b	,	(250)	(242)	
	(252)	(254)	(210)	(313)	(301)
	가 ()	가	가	(311)	(311)
	가 (256)	가 (258)			(252)
1	13a	13b	,	(270)	(301)
264)		가	(266),	(268)	(301)
62)		(311)			(2
	(272)				
14a	14b	,	(244)	(272)	
(242)			(311)		(311)
	(274)	(276)	(244)	(301)	(274) ,
		(278)	(311)		가
11a	11b	,	(280)	(245)	
	(245)		(241)	(282)	
14a	14c	,	(290)	(280)	
		(262)		(244)	(301)
	(290)	(301)		(292) ,	
	(294)		(262) 가		(294) 가
(296)					
	(360)	(350)		(370)	
	, 1	(372)	2	(374)	
15a	15c	,	1	(272) 가	(376)
(371)		1	(378)	, 1	(378)
		1	(375)	, 1	(377)
	1	(375)		(242)	(245)
(311)		1	(379)		
16a	16c	,	2	(372) 가	(382)
(386)		2	(384)	, 2	(384)
		2	(381)	, 2	(383)
					2
					180
					(313)

311) 2 (385) , 1 (379) (

(387) (311) (370) (391) 2

, 1 (300) (301) (340), (350), (360)

(301) 2 (351)

2 (351) (340), (350), (360)가

53) (353) , (301) (353) . .(LM)가 (355) , (3

(301) 2 (357)

17a 17b (370) (391)

(301) 가 (392) , (391)

(393) (393), (393)

(301) 가 (394)

가 2

, (300) (315)

3) (311) (310) (320), (330) (31

(340) (343)

(330) (116) (118) (102) 가 (104)

(320) (300) 가

, (340) (343)가

(315) (343) (311) (370)

(311) (310) 가 (317) 가 (319)

(320)

, (320) (311) (325)

가 (311) 가 (322) 가 (329) (330)

, (311)가 (330) (330)

2) (210) 가 (106) (108) (10

(104) (102) (104)

(122) (124) (313) (116) (1

18) 90 (132) (134) (102)

(104) (116) (118) (102)

(104)

, (106) (108) 가
 , (122) (124) (313)
 , (132) (134) (313) (311)
 (102) (104) (311) (311)
 (102) (104) (311) (122)
 (124)

, (340) (102) (104) (311) 가
 (311)가

, (112) (114) (102) (104)
 (106) (108) (122) (142)
 (124) 가 (141) (143) (116)
 (144) (102) (104)
 (118)

, (340) (311) 1
 , (340) (343) (311) 가 (218) 가
 (311) (210) (212) (220) (31)
 1) (213) (215)

, (230) (232) (214) (311)
 'Z' 가 (102) (104) (104) (311)
 (102) (104) (220) (232)가
 (240) (311) (212) (210) 'Z'
 (242) (232)

, (242) (27) (262)
 0) (272) (262) (278) (311)
 (278) (278)가 (311)가

, (258)가 (250)
 가 가

, (262) (282) (245)가
 (280) 가 (262)
 (270)

, (262) (290) 가
 (294) (262)

, 1 (372) 1 (378) 1 (379) (242)
 (245) 180 .
 , 2 (374) 2 (387)가
 180 (391) . (391)
 2 (374) .
 (240) (310) (311)
 가 (330)
 (102) (320) (104) .
 , (370) (391) 가 , (391) (37
 0) (391) 가 , (391) (391)
 (391)

, 2 가 .
 , 2

,
 ,
 ,
 ,
 , 가 .
 , 2
 , 'Z'
 , 가 .

(57)

1.
 ;
 가 ; 가 가
 ;
 ;

가

, ;

가

;

(1 batch)

'Z' 가

;

가

2 .

2.

1 ,

2 .

3.

1 ,

:

가 ;

, 가
2 .

4.

1 ,

2 .

5.

1 ,

:

가
2 .

6.

5 ,

2 ' .

7.

1 ,

2 .

8.

1 ,

2 . 1

9.

1 ,

가 가 , 2

10.

1 ,

:

(asymmetrically)

가 가 ;

가

;

가 가 ,
2 .

11.

10 ,

:

2 .

12.

11 ,
:

;

가

2

가

13.

12 ,

2

14.

10 ,
:

가

2

15.

10 ,

가

2

16.

1 ,
:

가

2

17.

16 ,

가

2

18.

1 ,
:

(1 batch)

가

가

, ;

가

' ;

가

가 ,

'Z'

가 ;

'Z' /

2

19.

18 ,

가

가 ;

2

20.

18 ,

:

가 'Z'

2

21.

18 ,

가 ,

2

22.

18 ,

2

23.

18 ,

/ :

'Z'

;

가

가

;

가

;

;

가

2

24.

23 ,

/ :

가

가

2

25.

1 ,

:

가

1

;

180

1

180

2

2

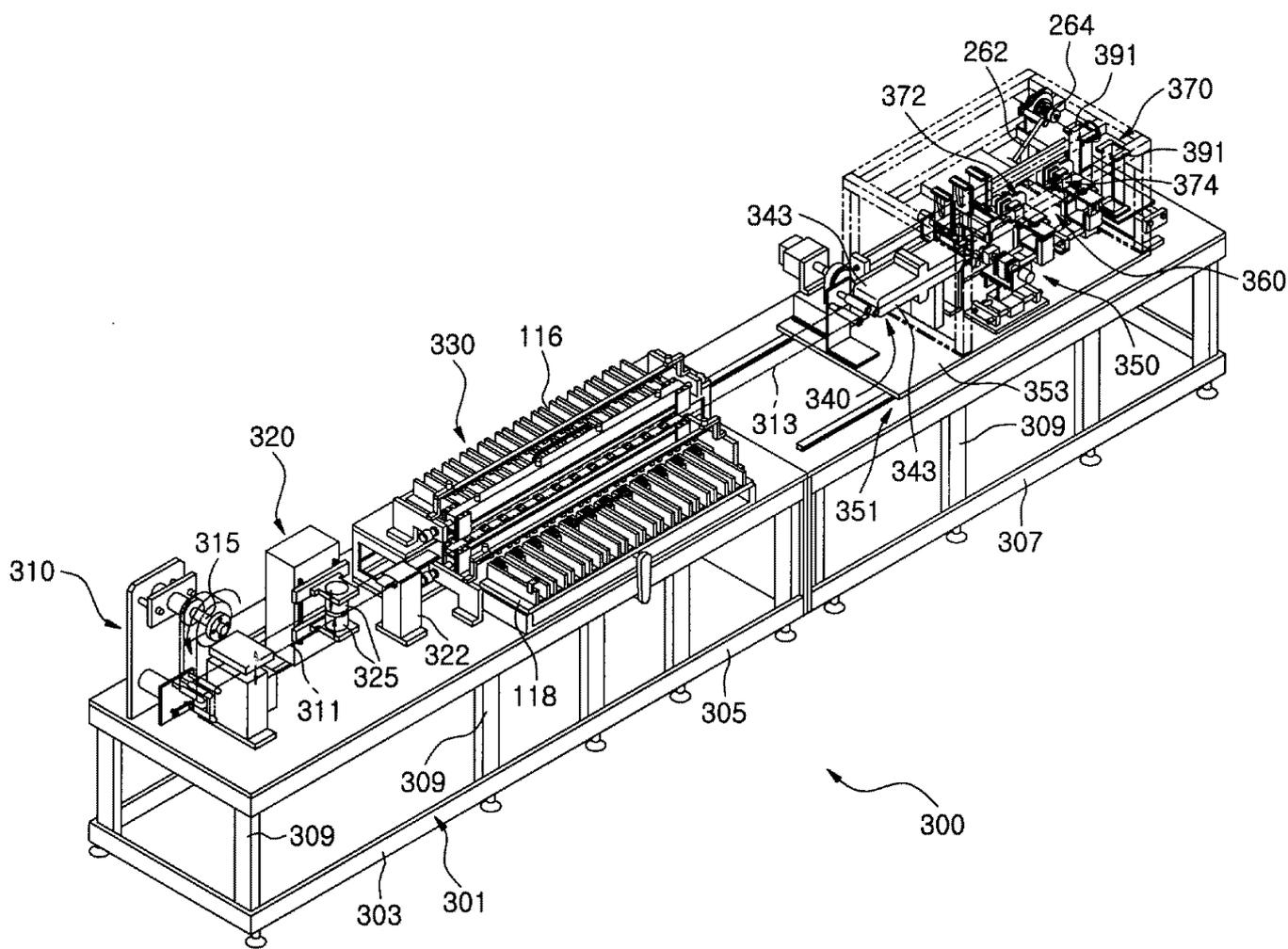
26.

1

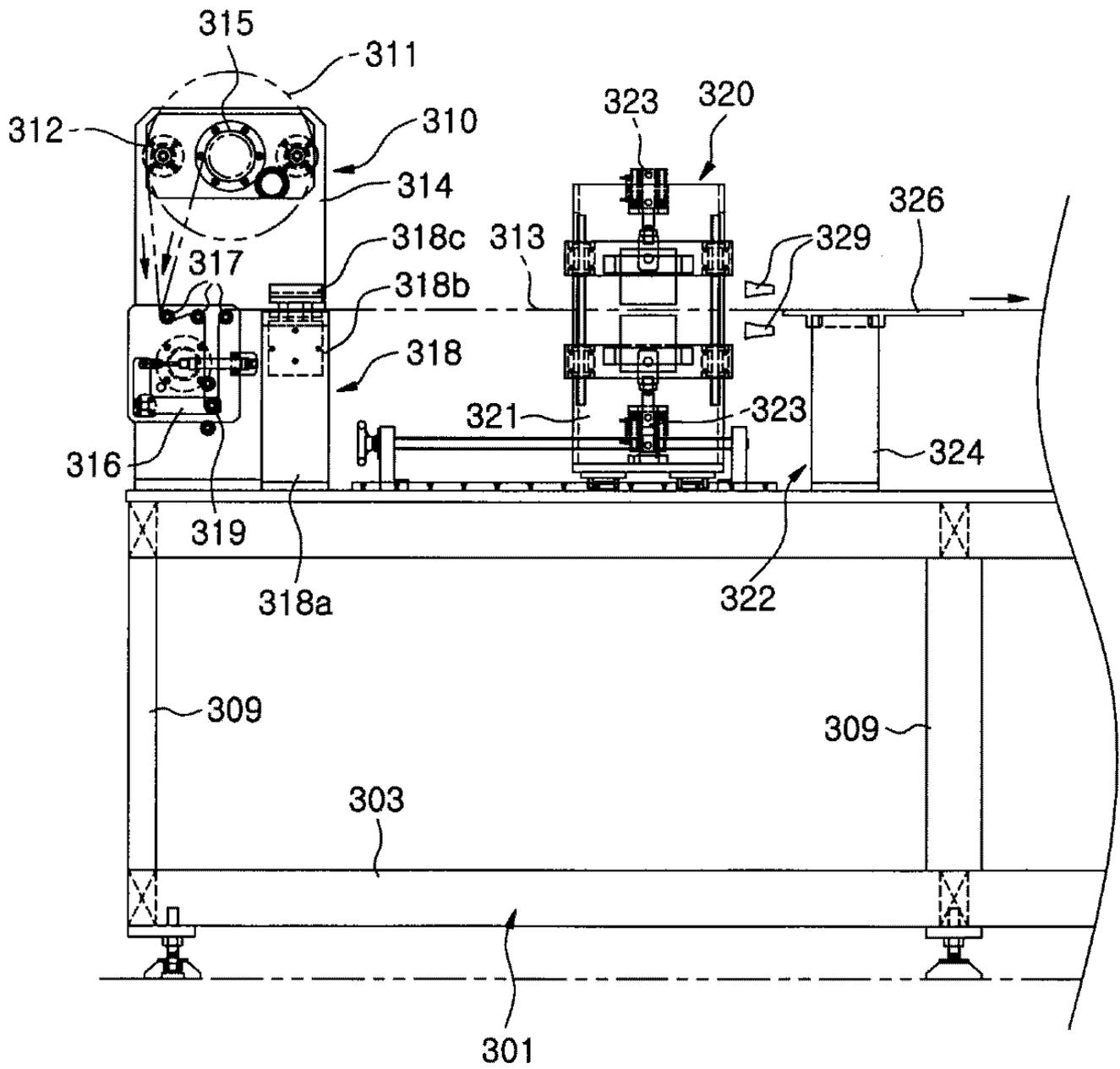
2

2

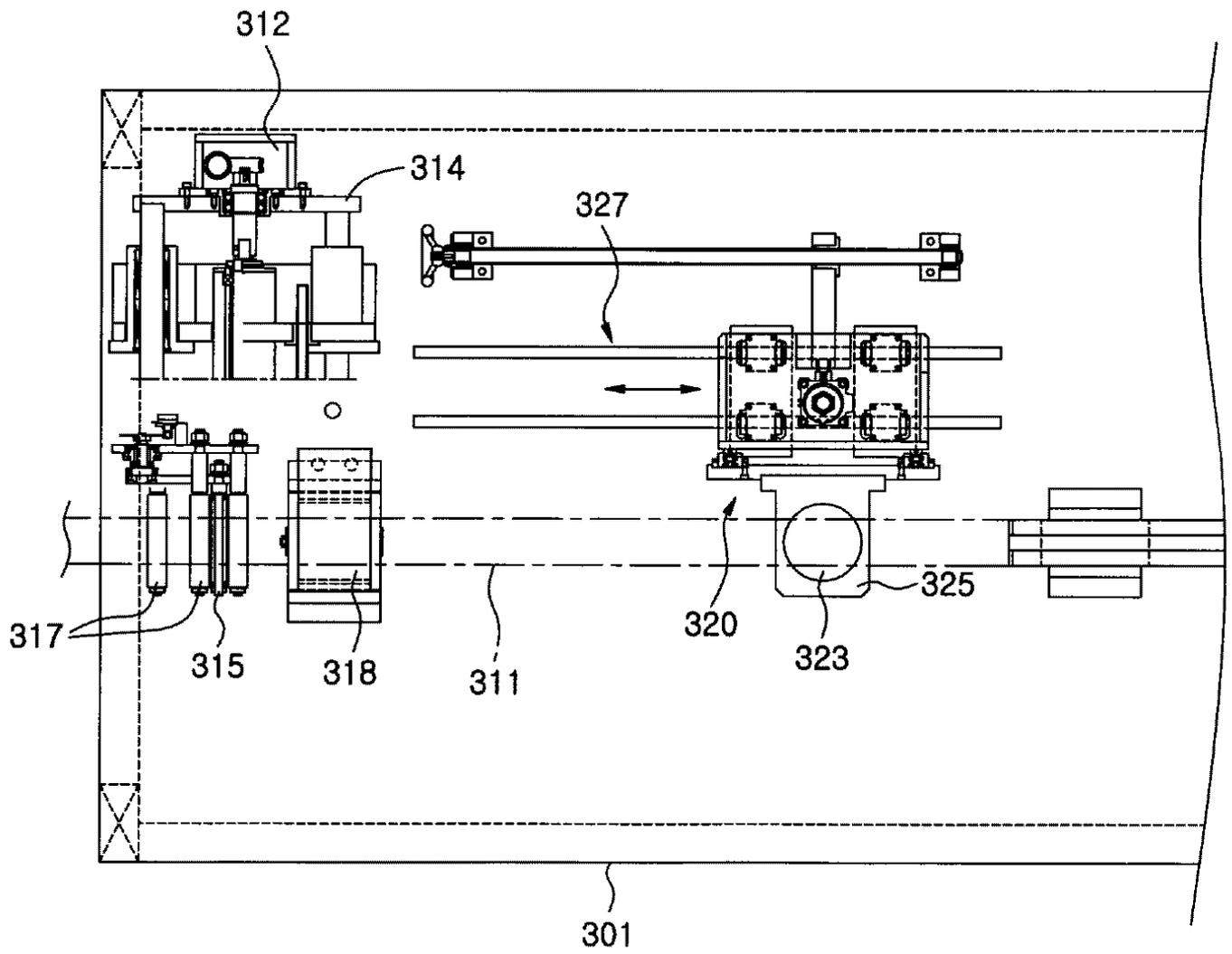
1



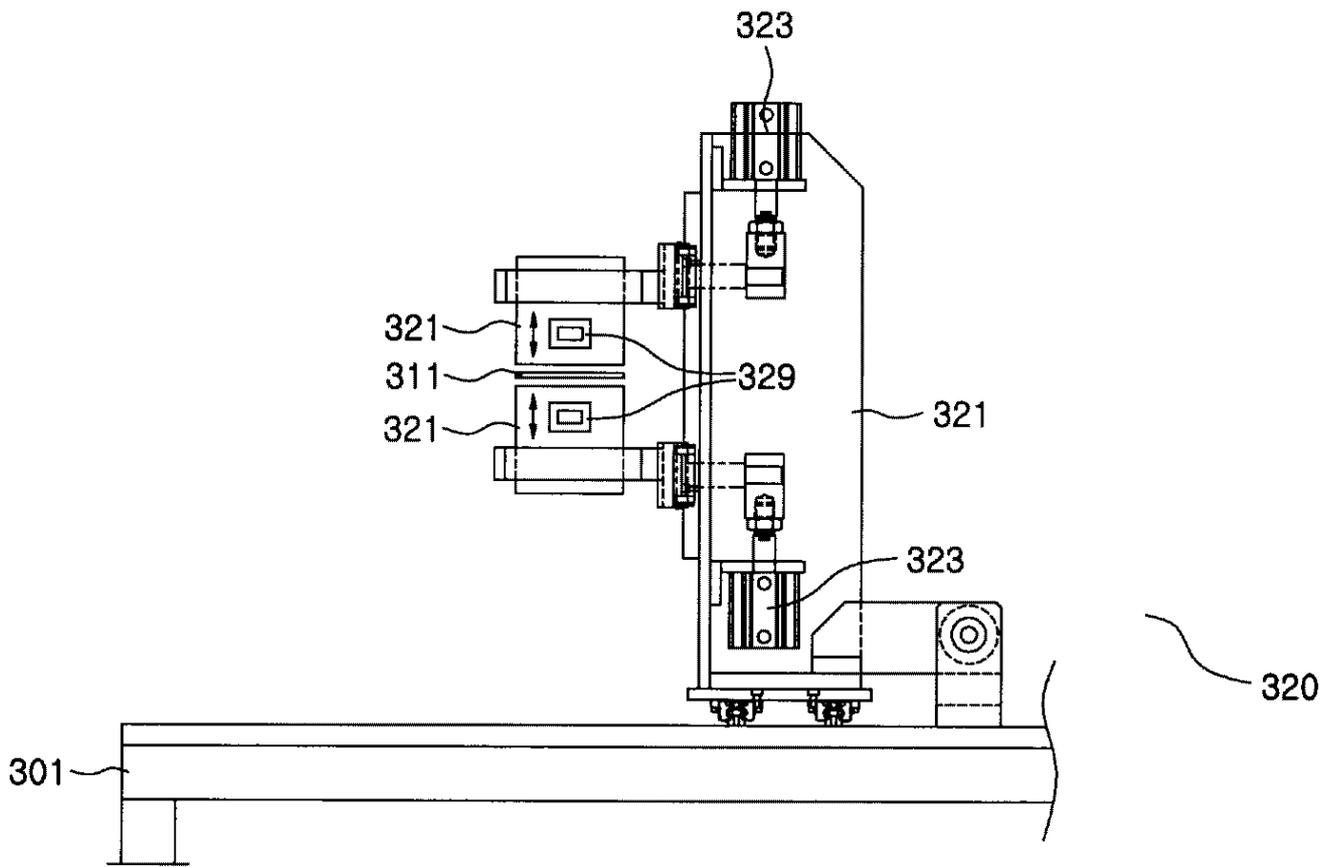
2a



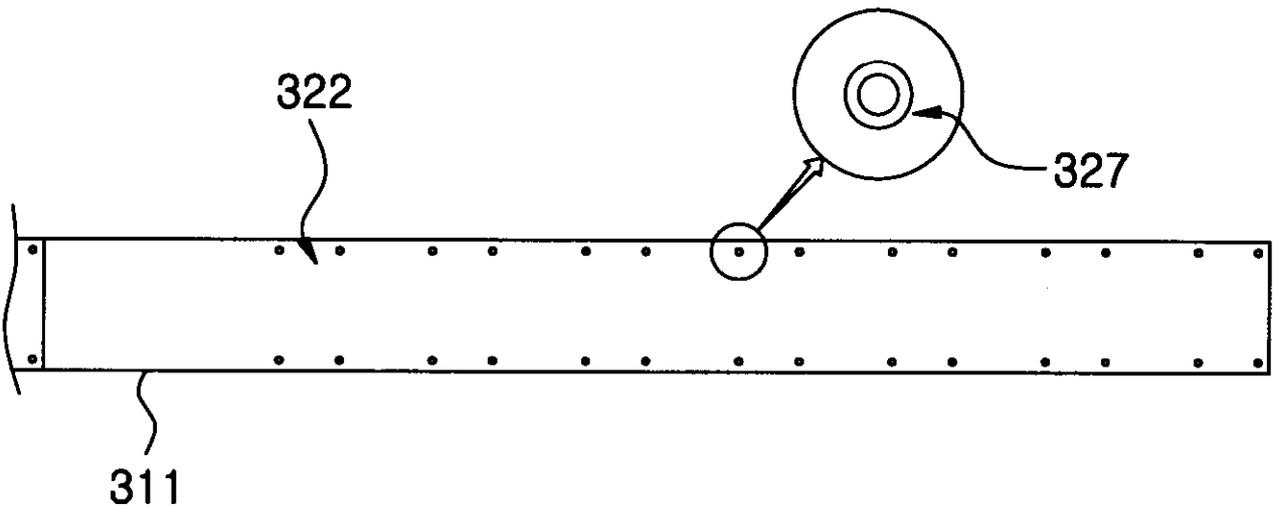
2b



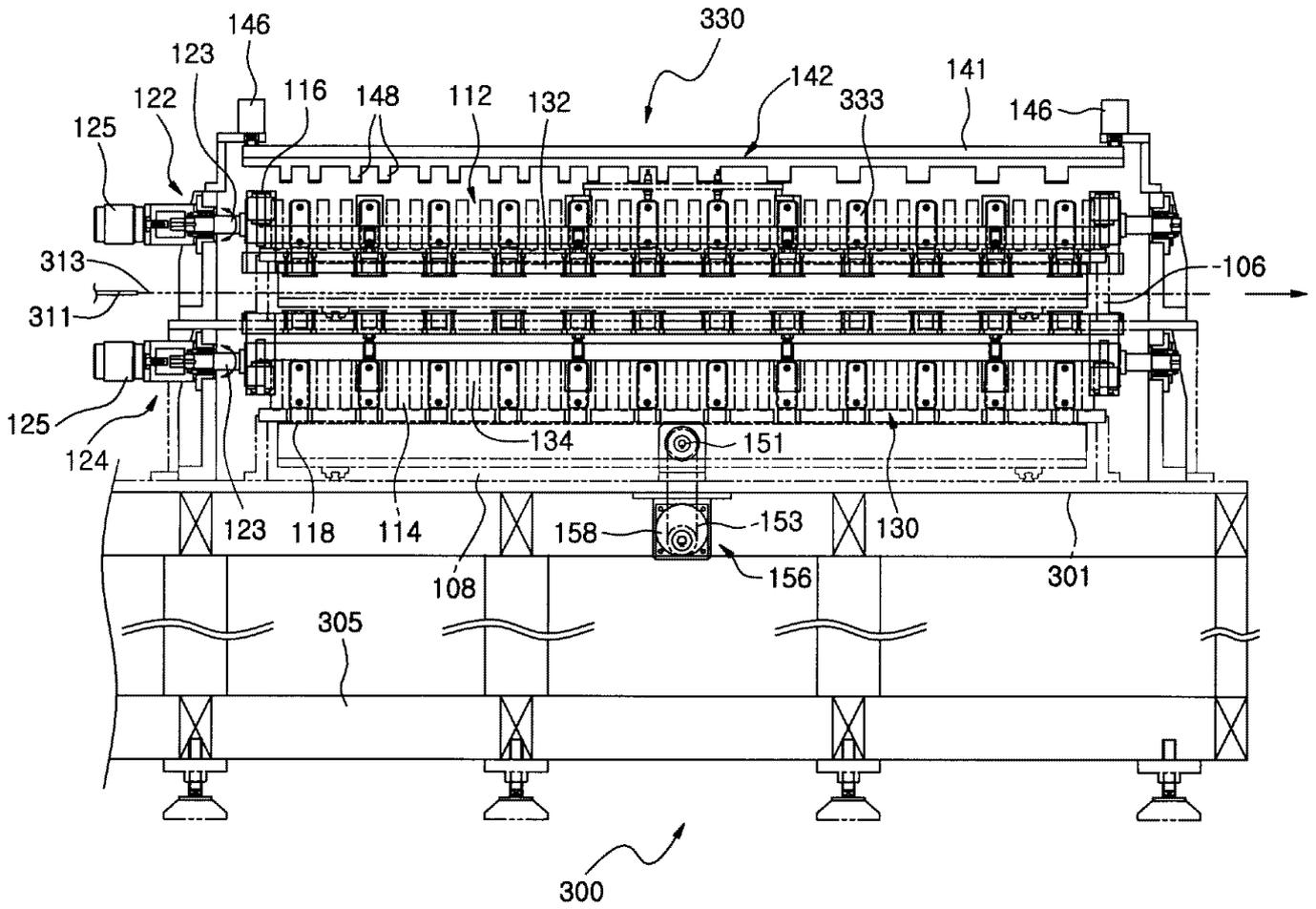
3



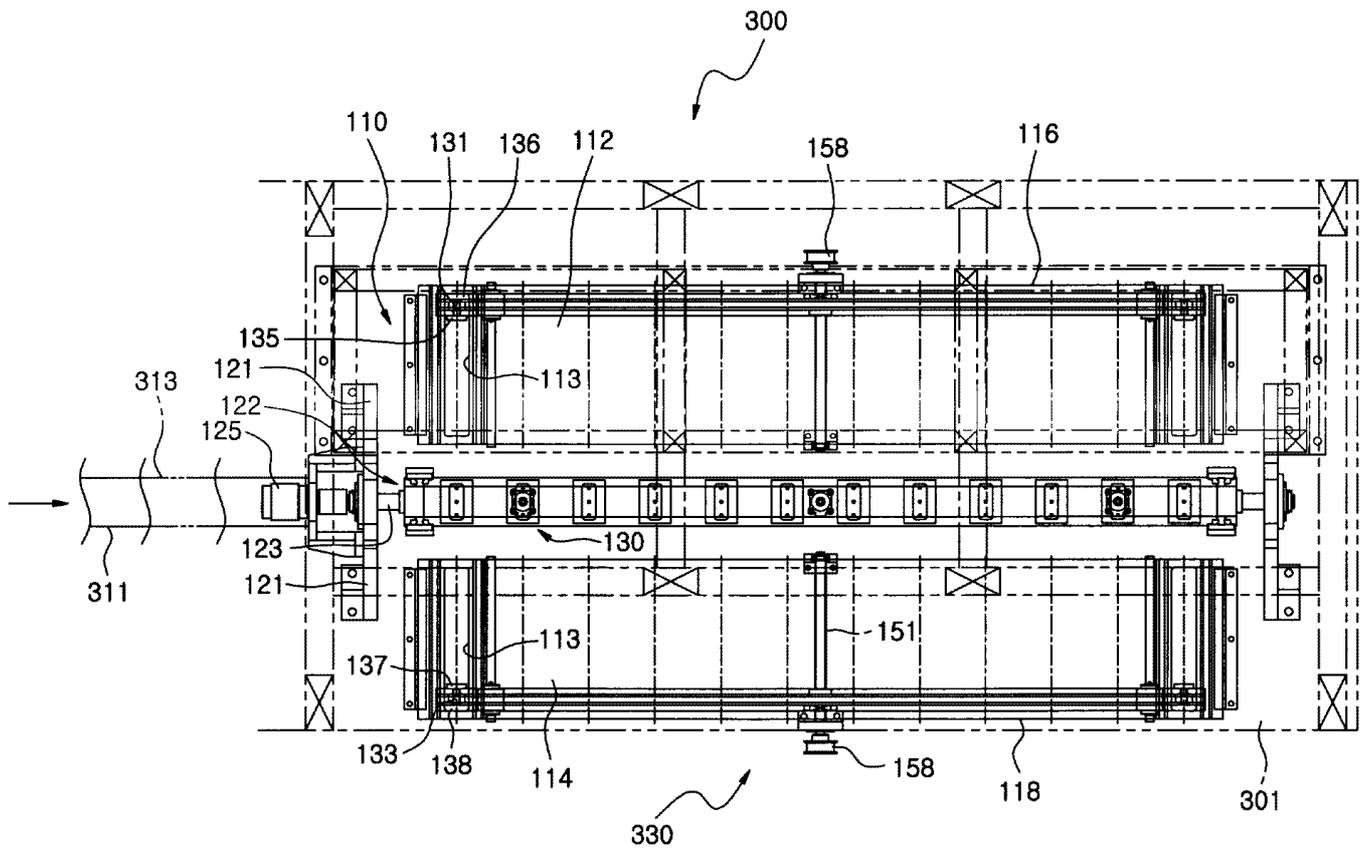
4



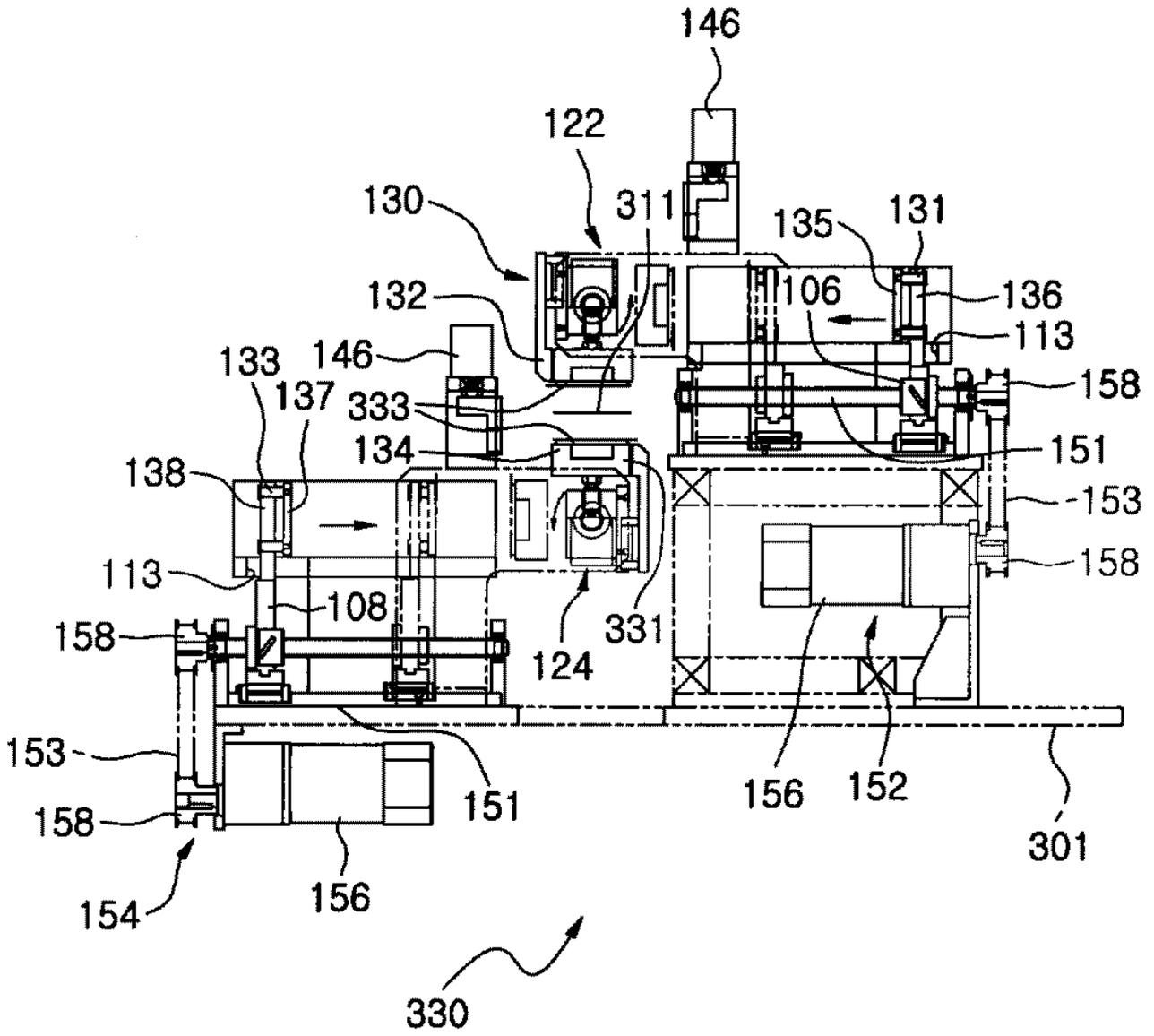
5a



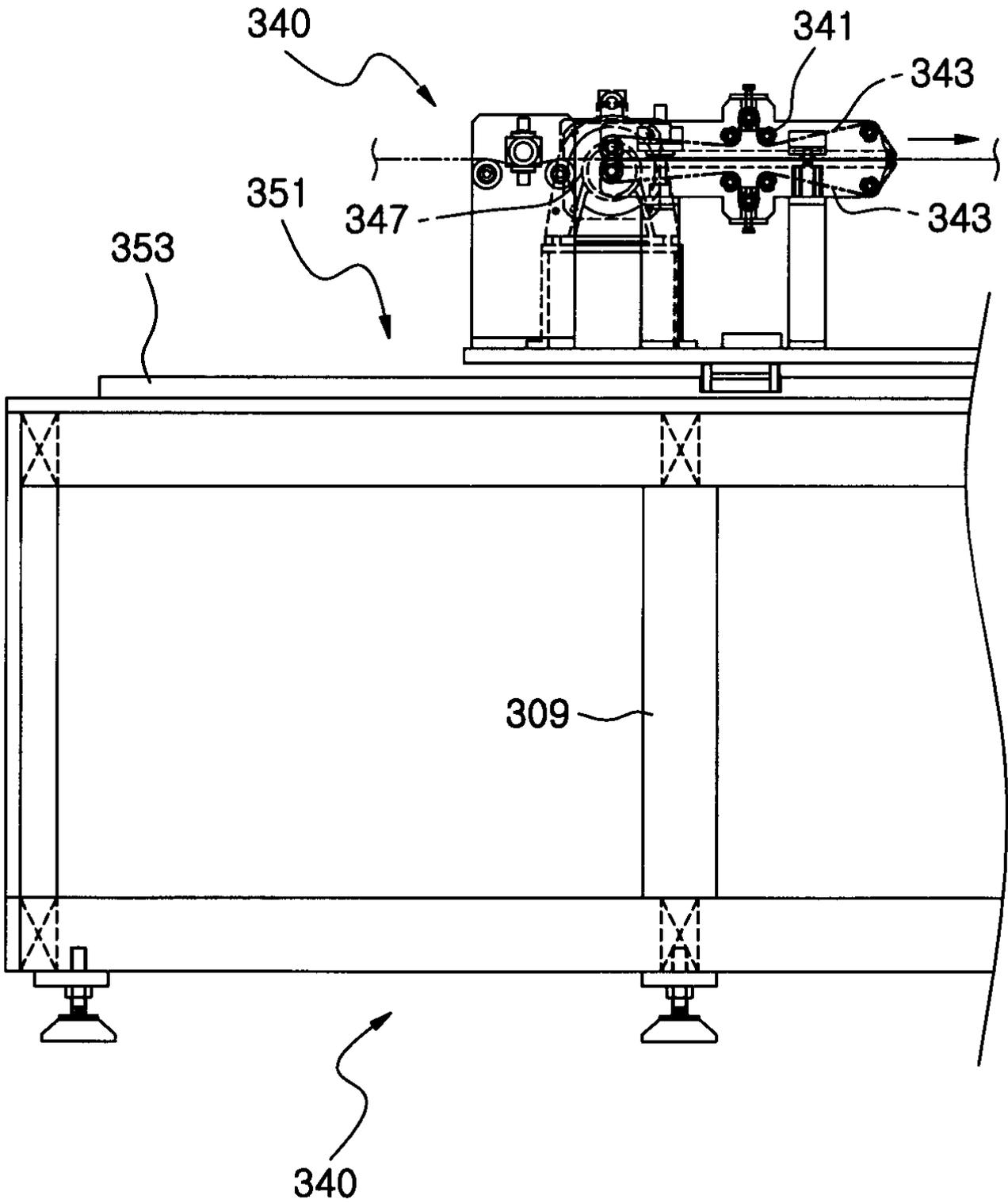
5b



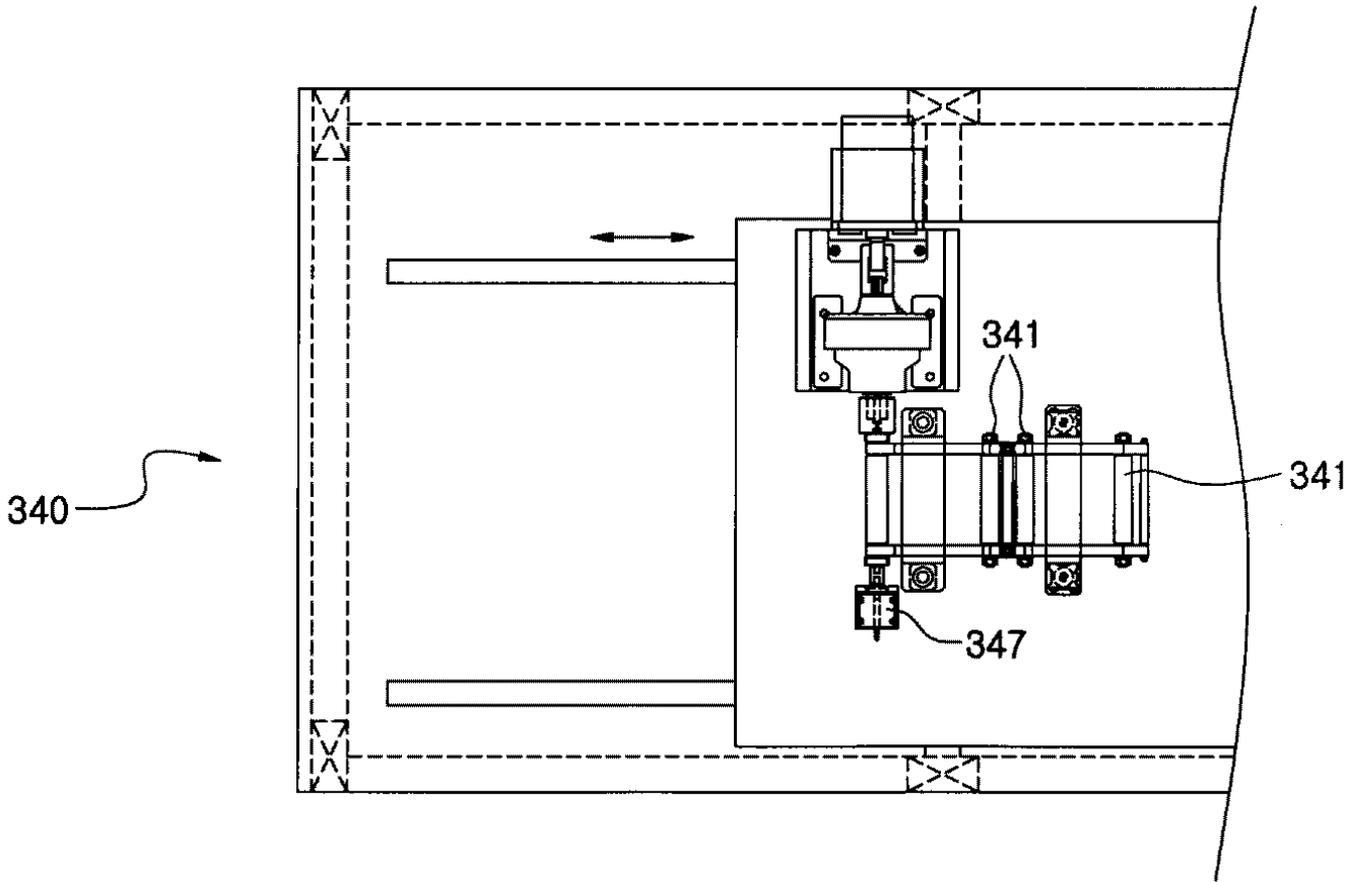
5c



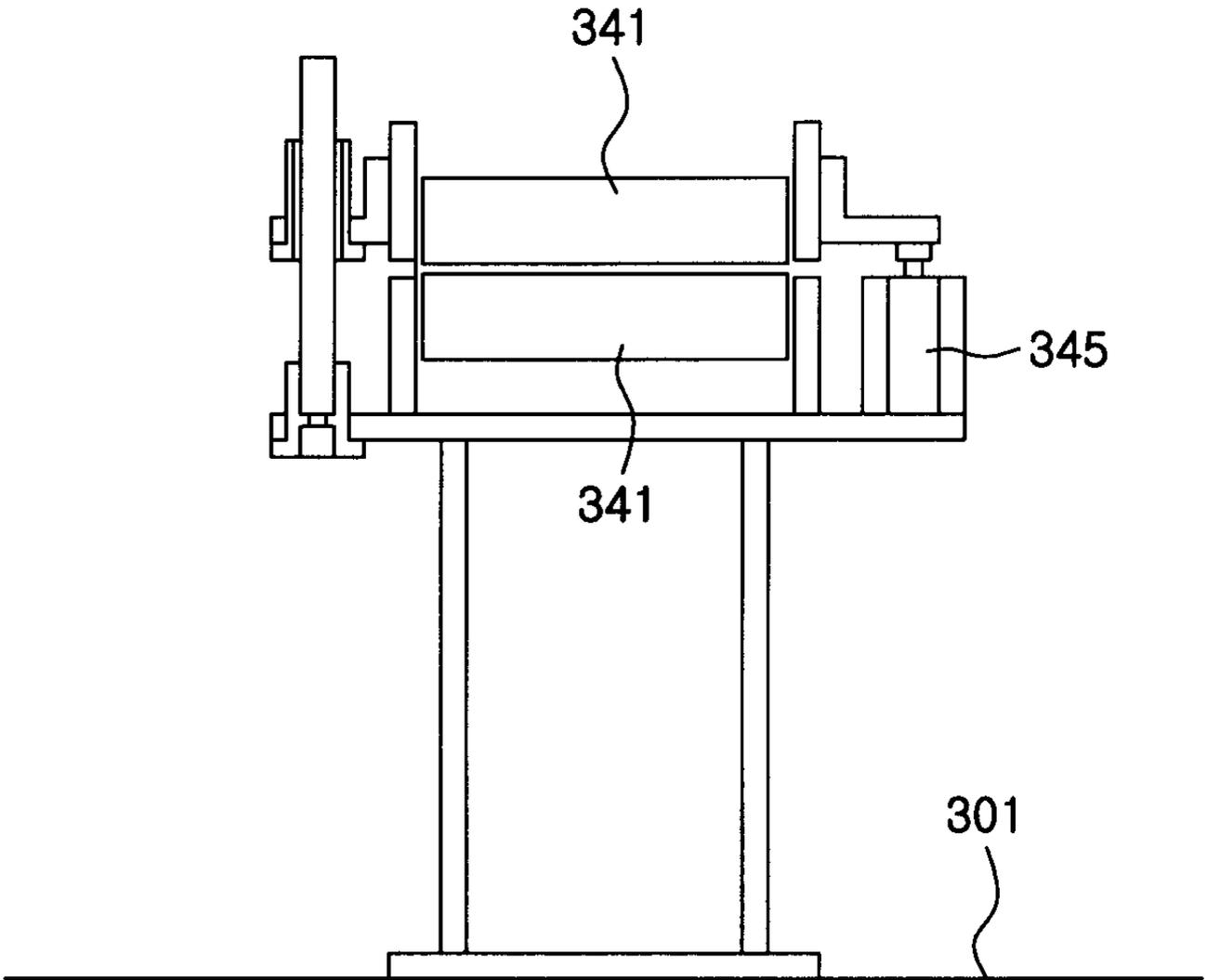
6a



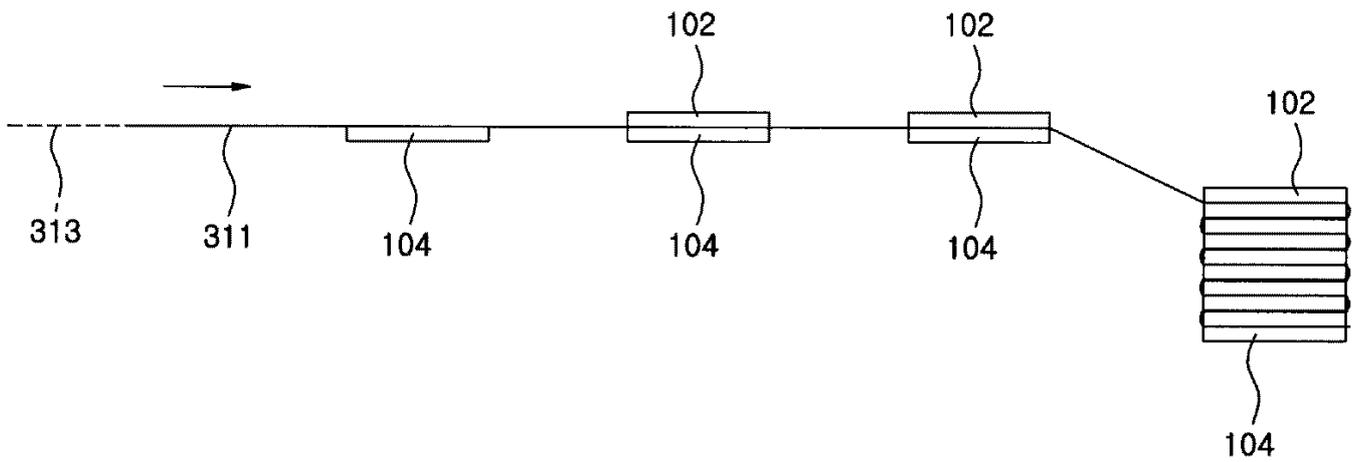
6b



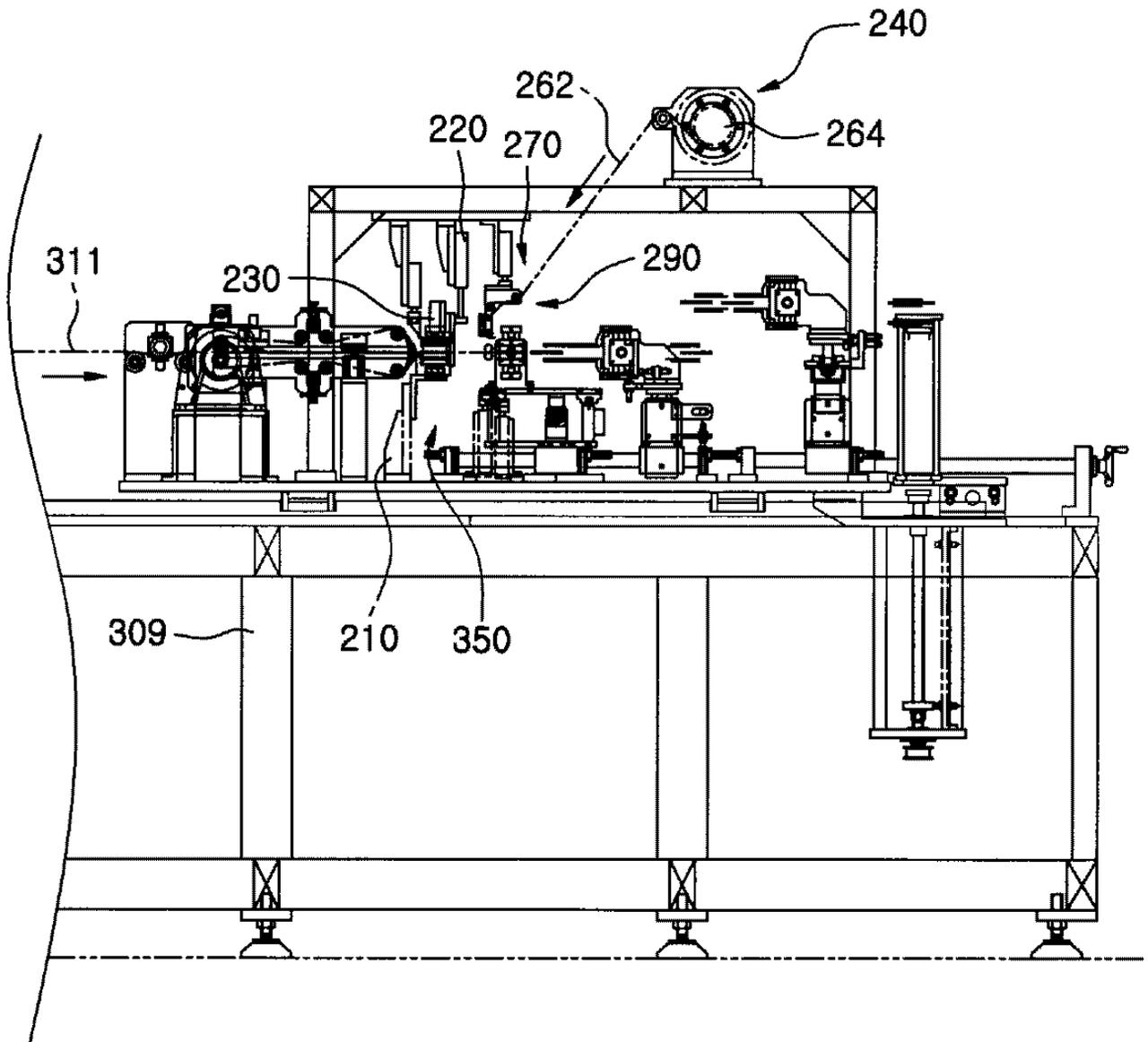
6c



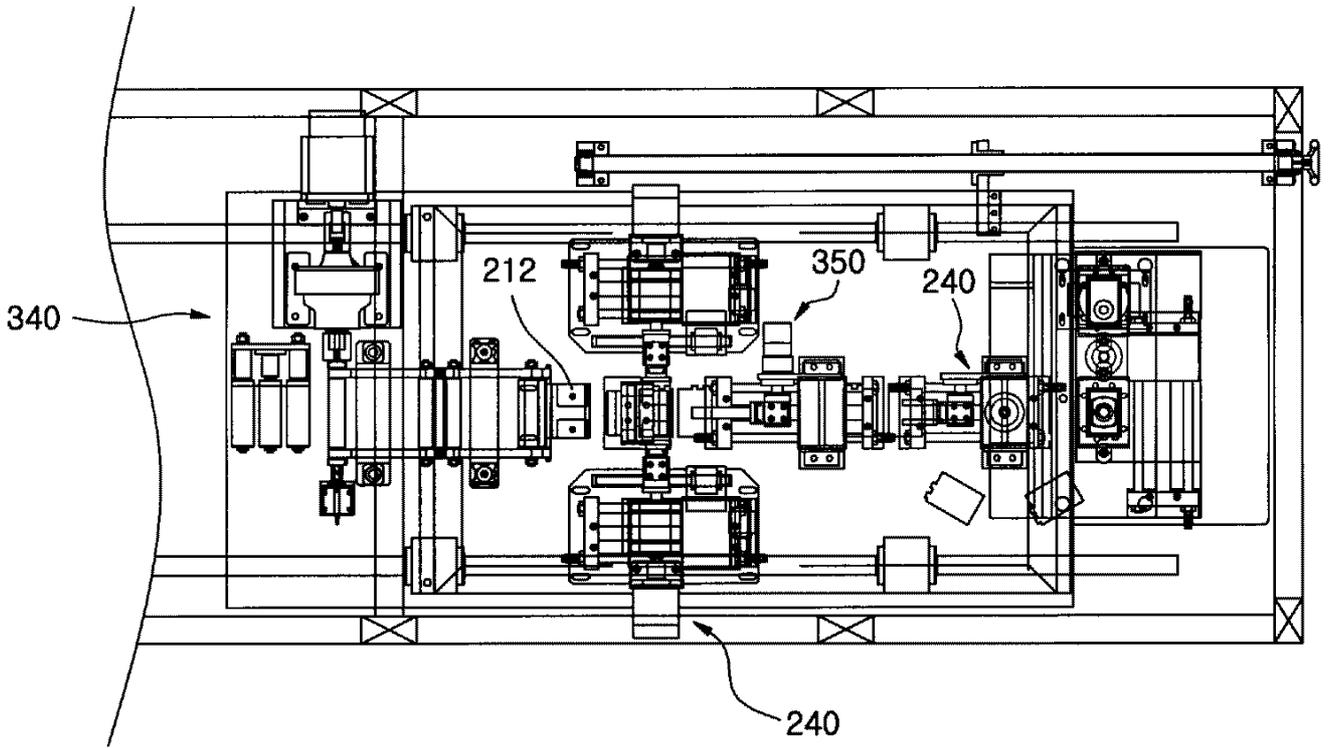
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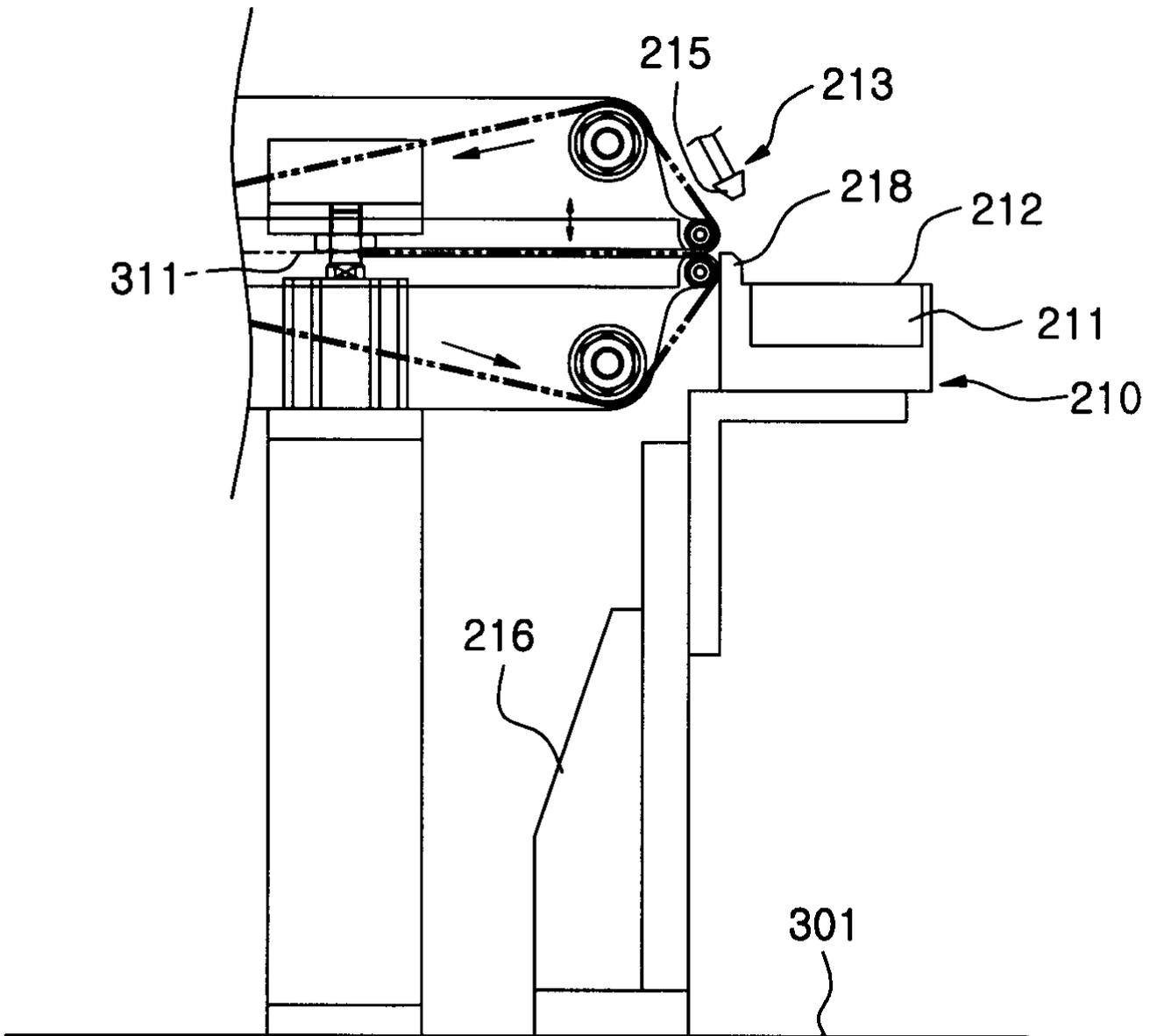
8a



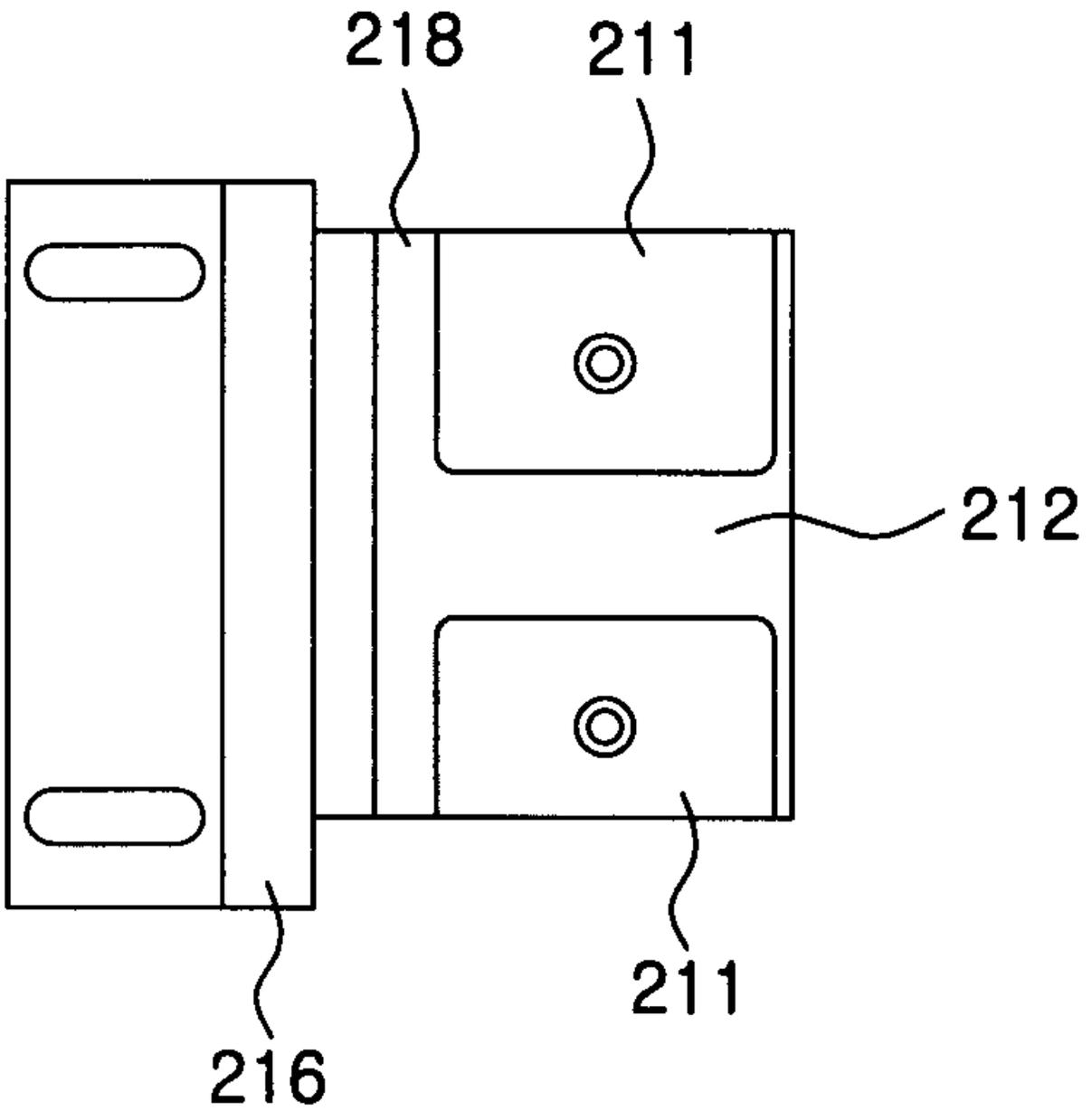
8b



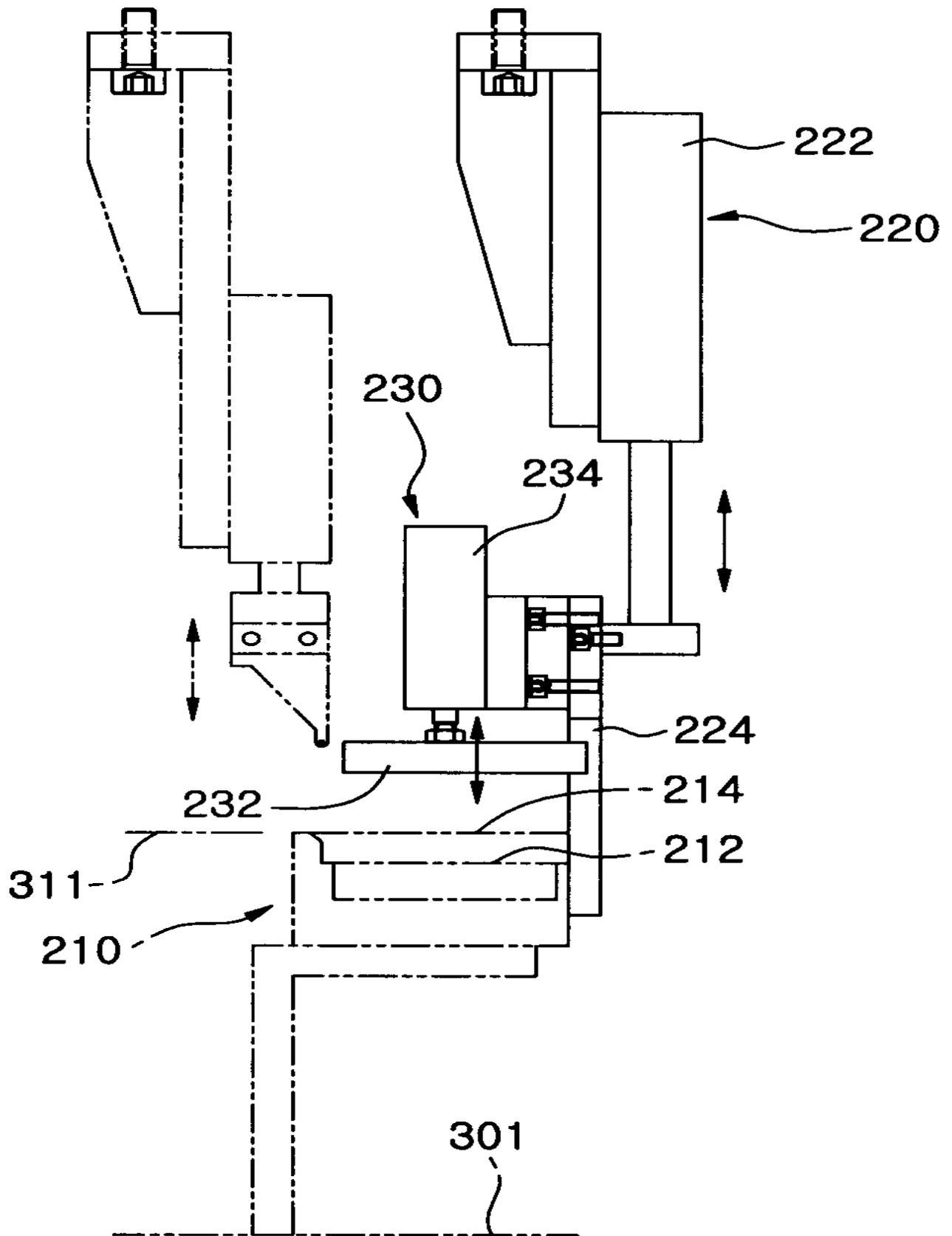
9a



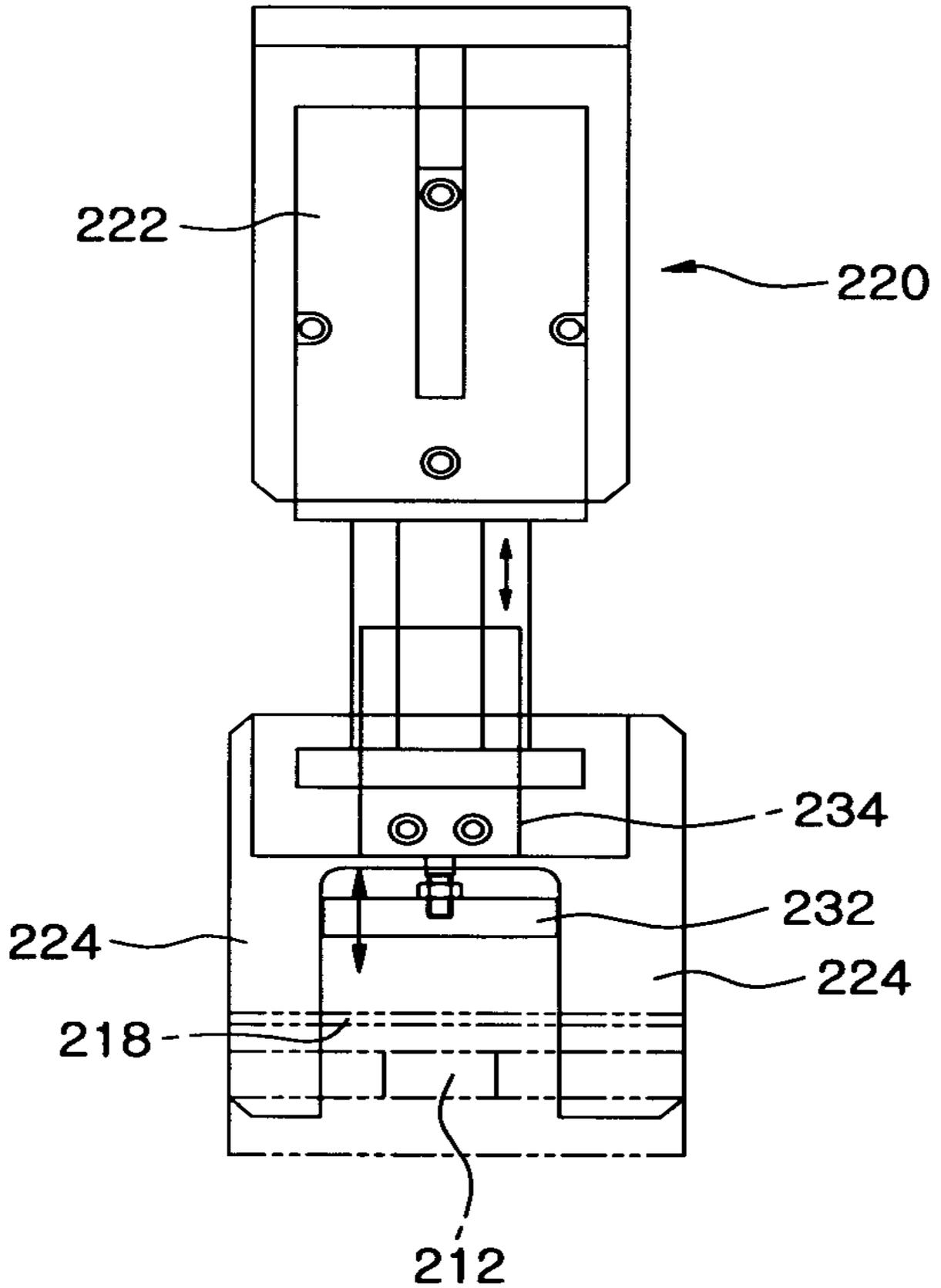
9b



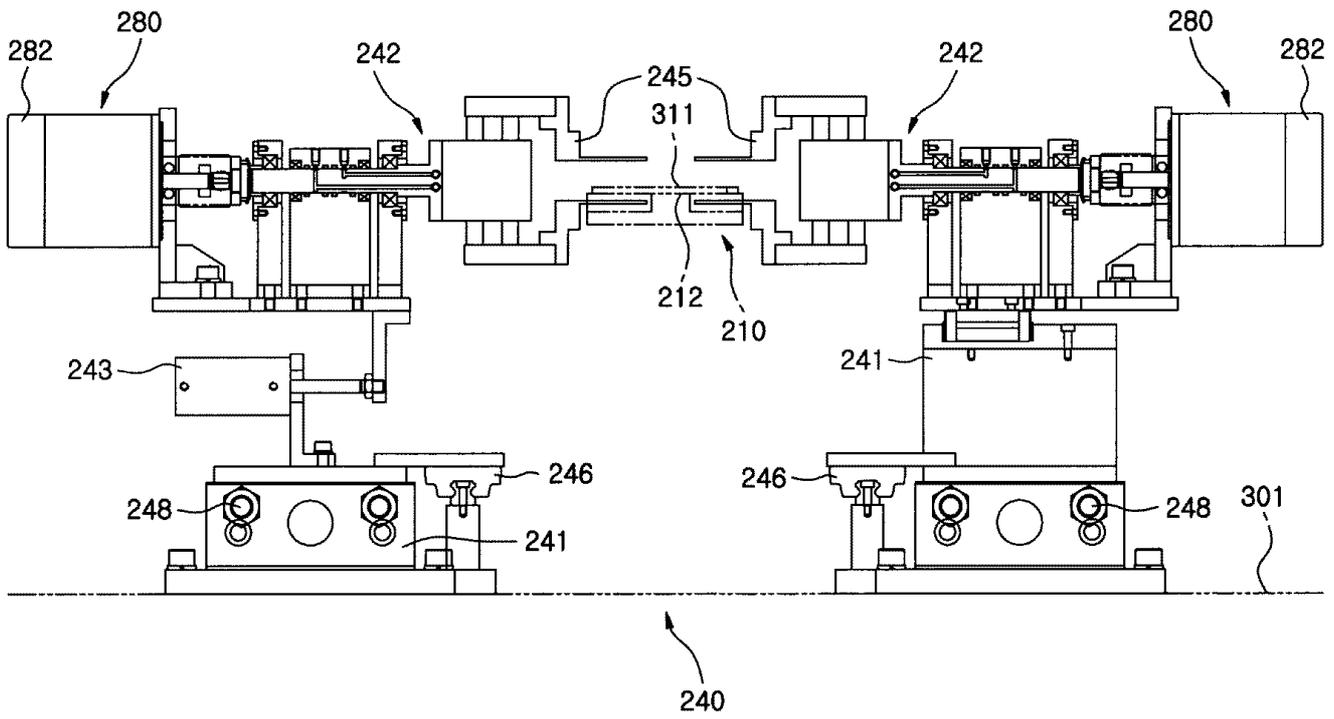
10a



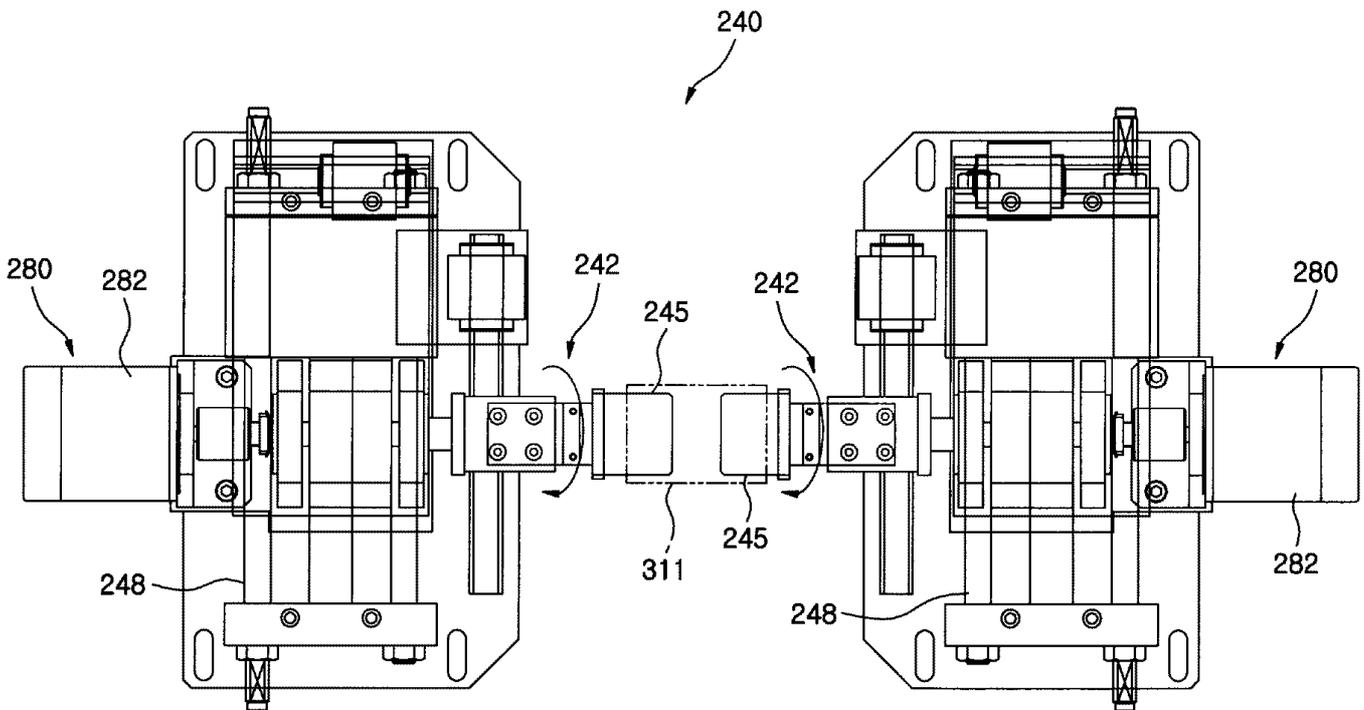
10b



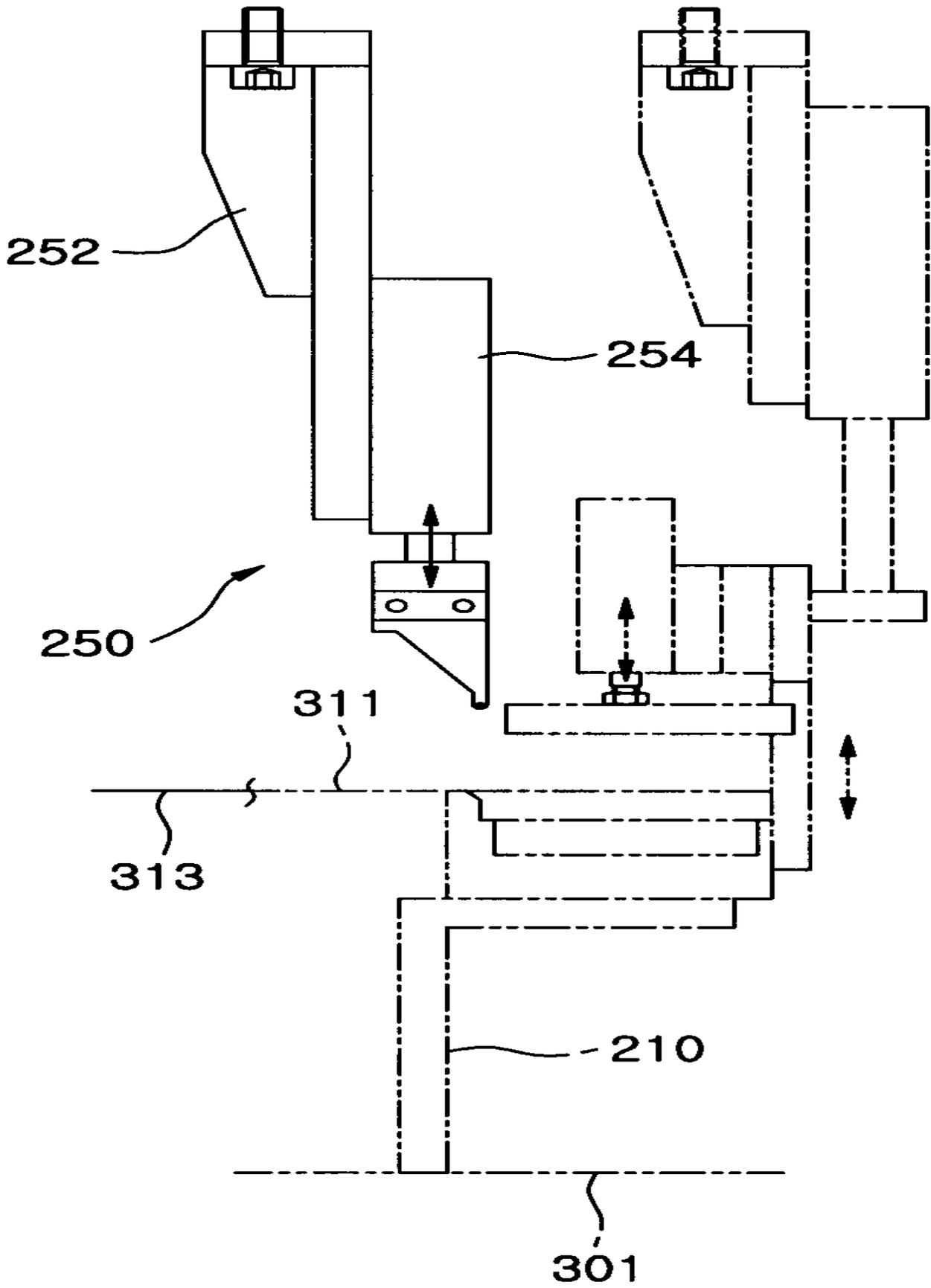
11a



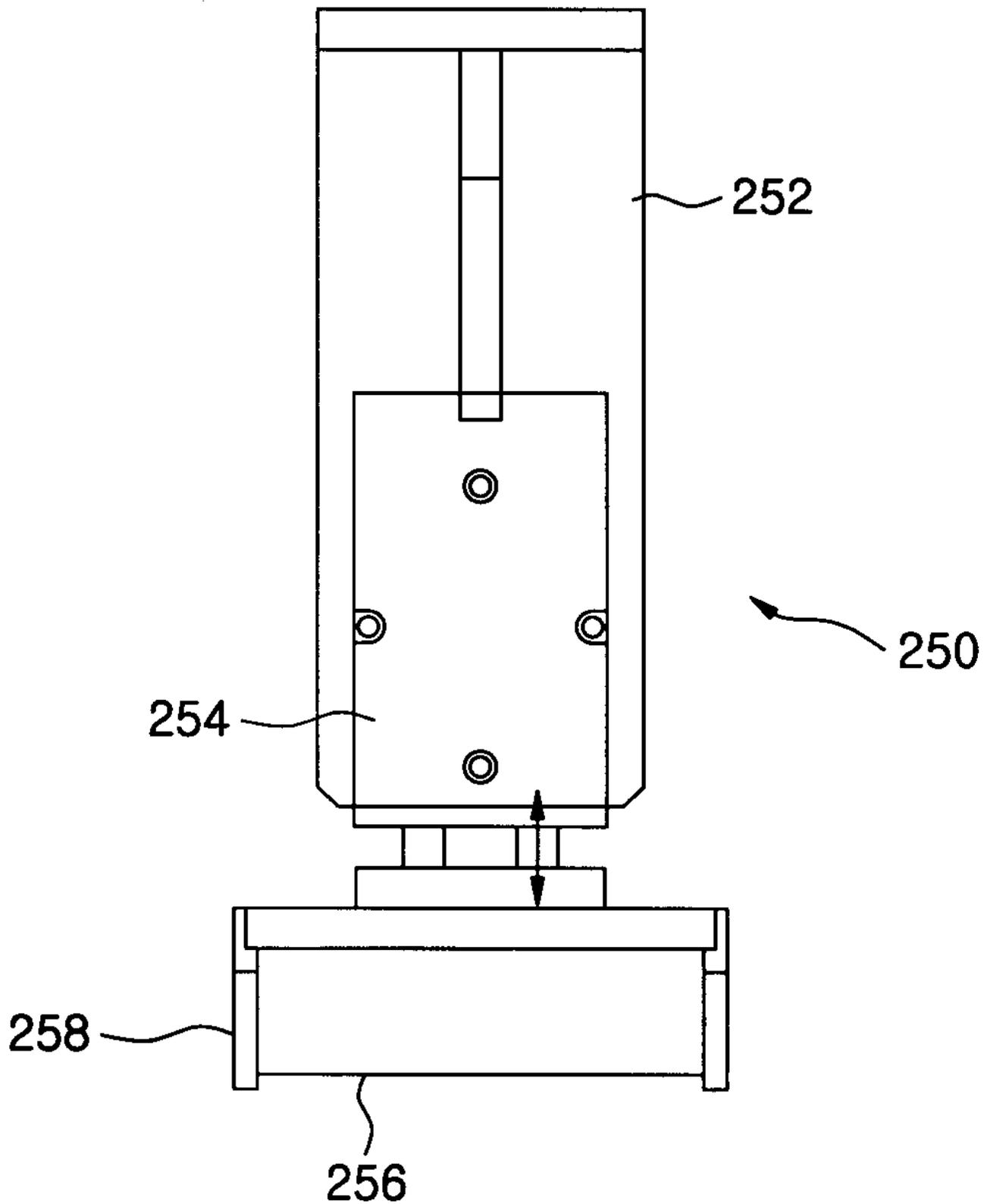
11b



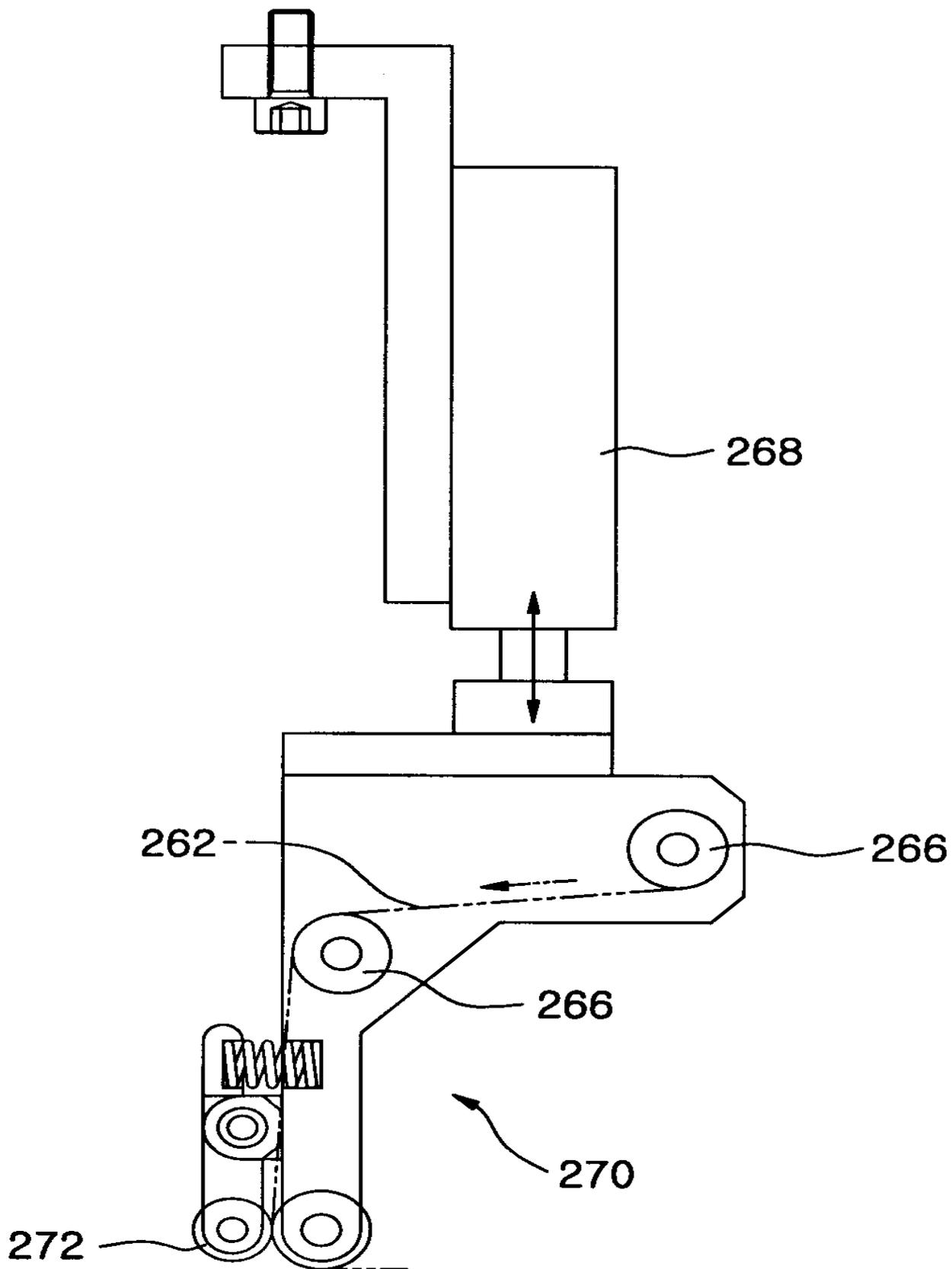
12a



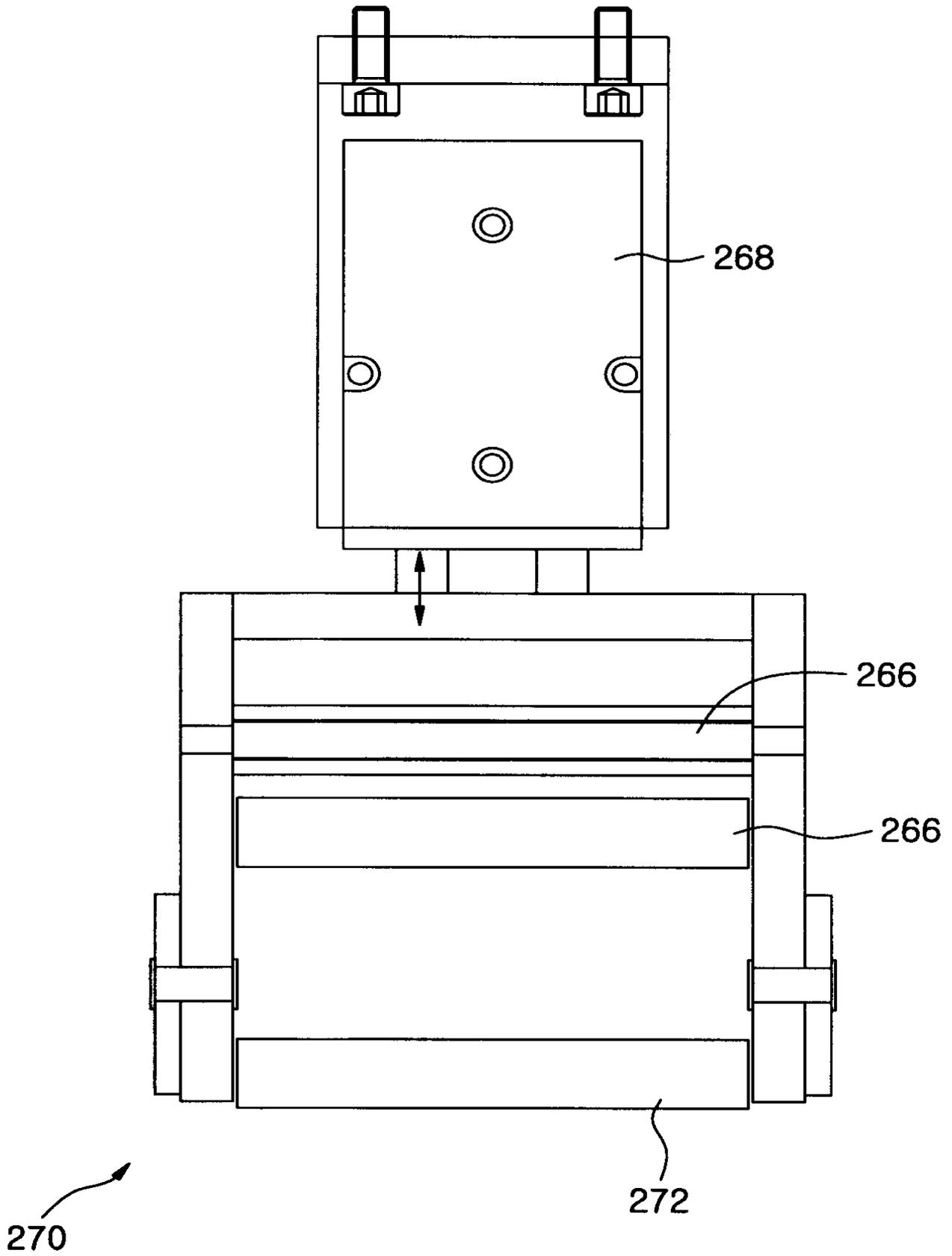
12b



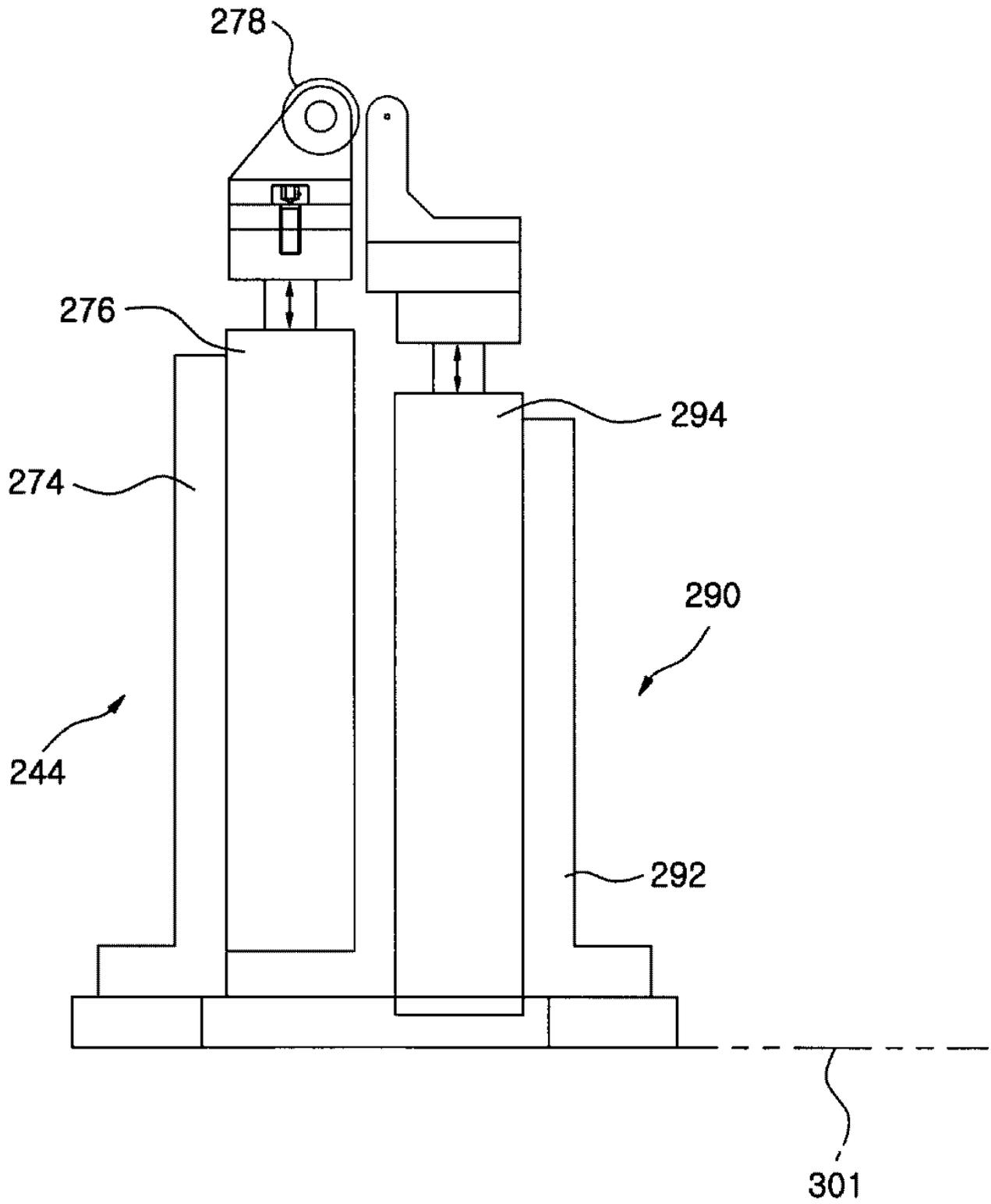
13a



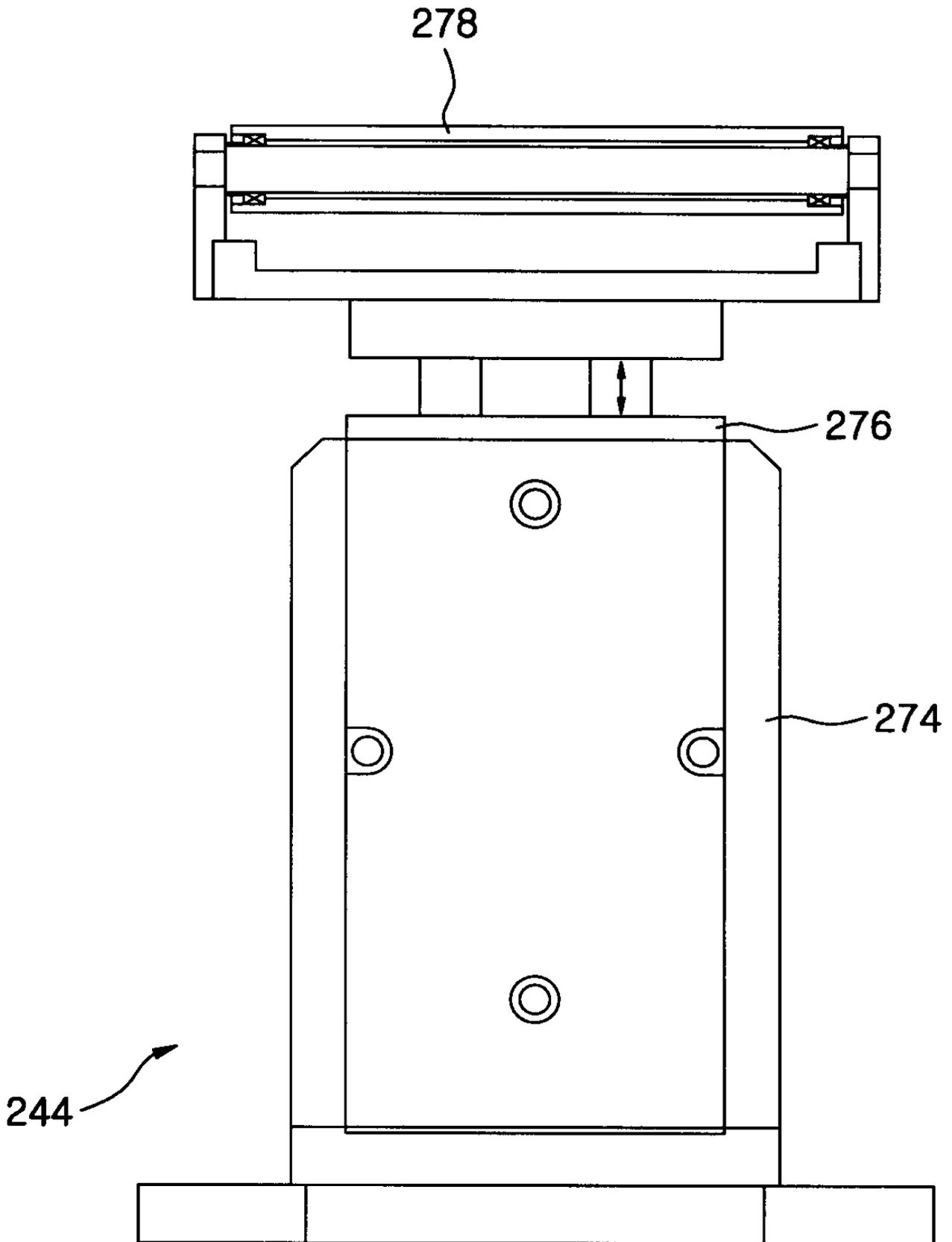
13b



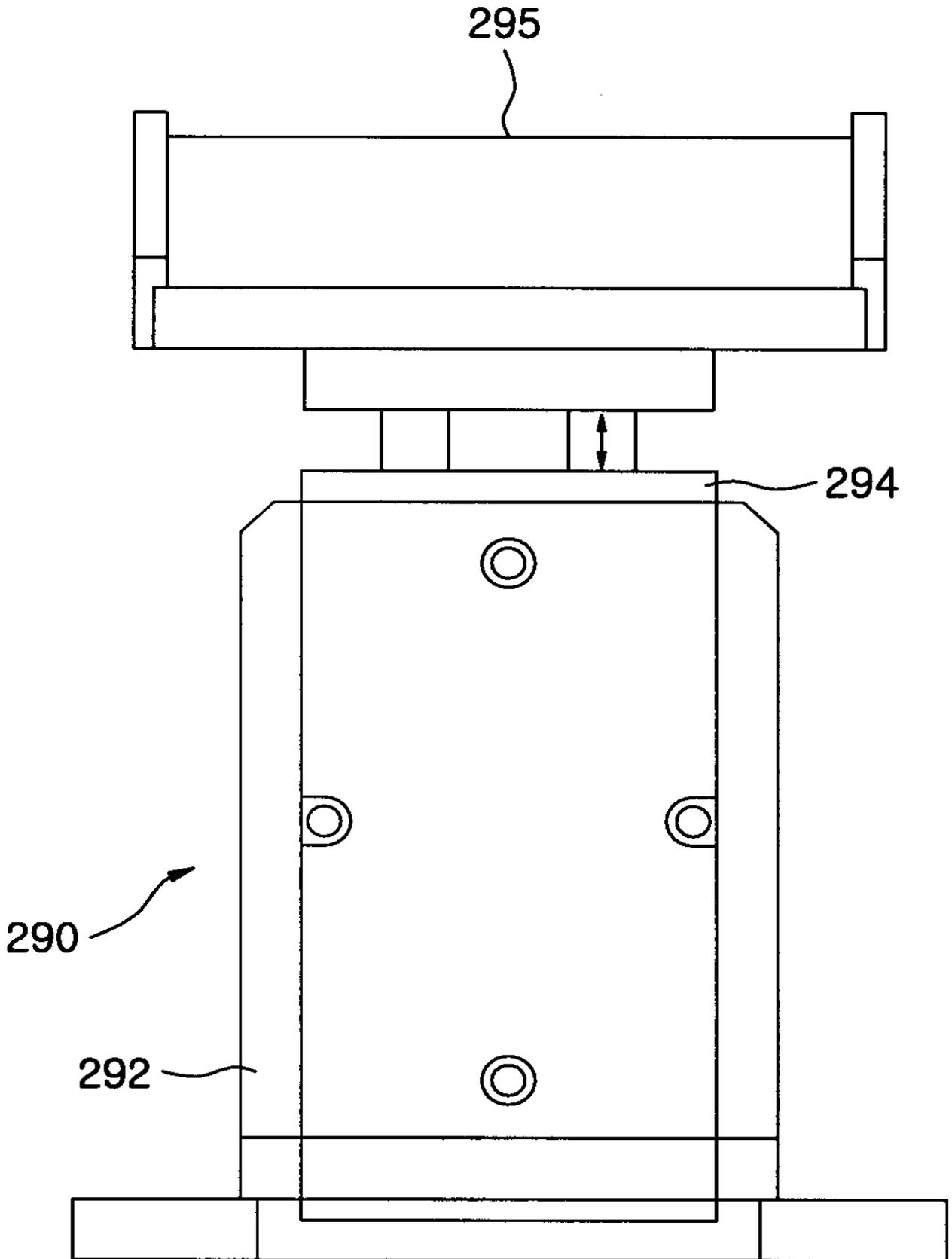
14a



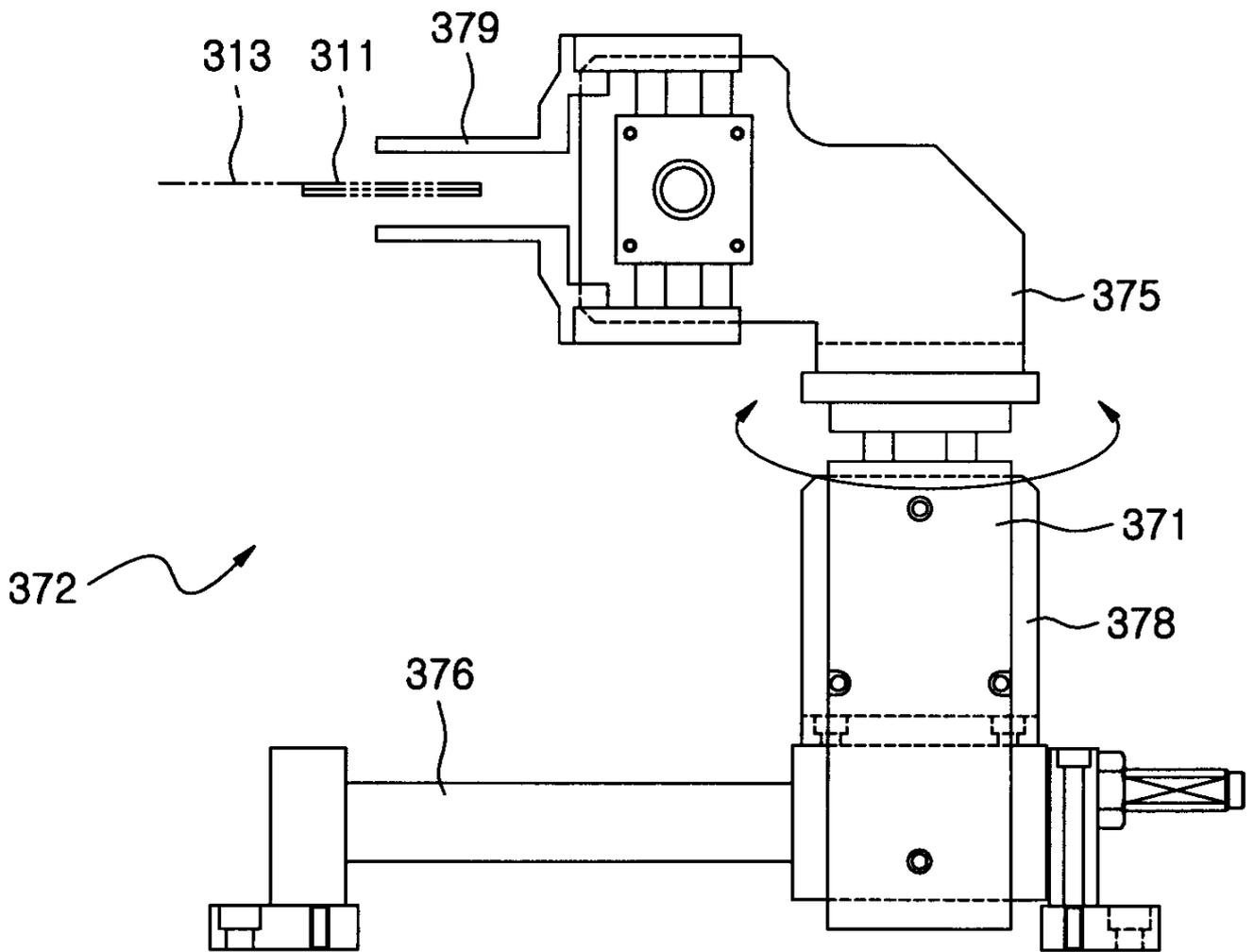
14b



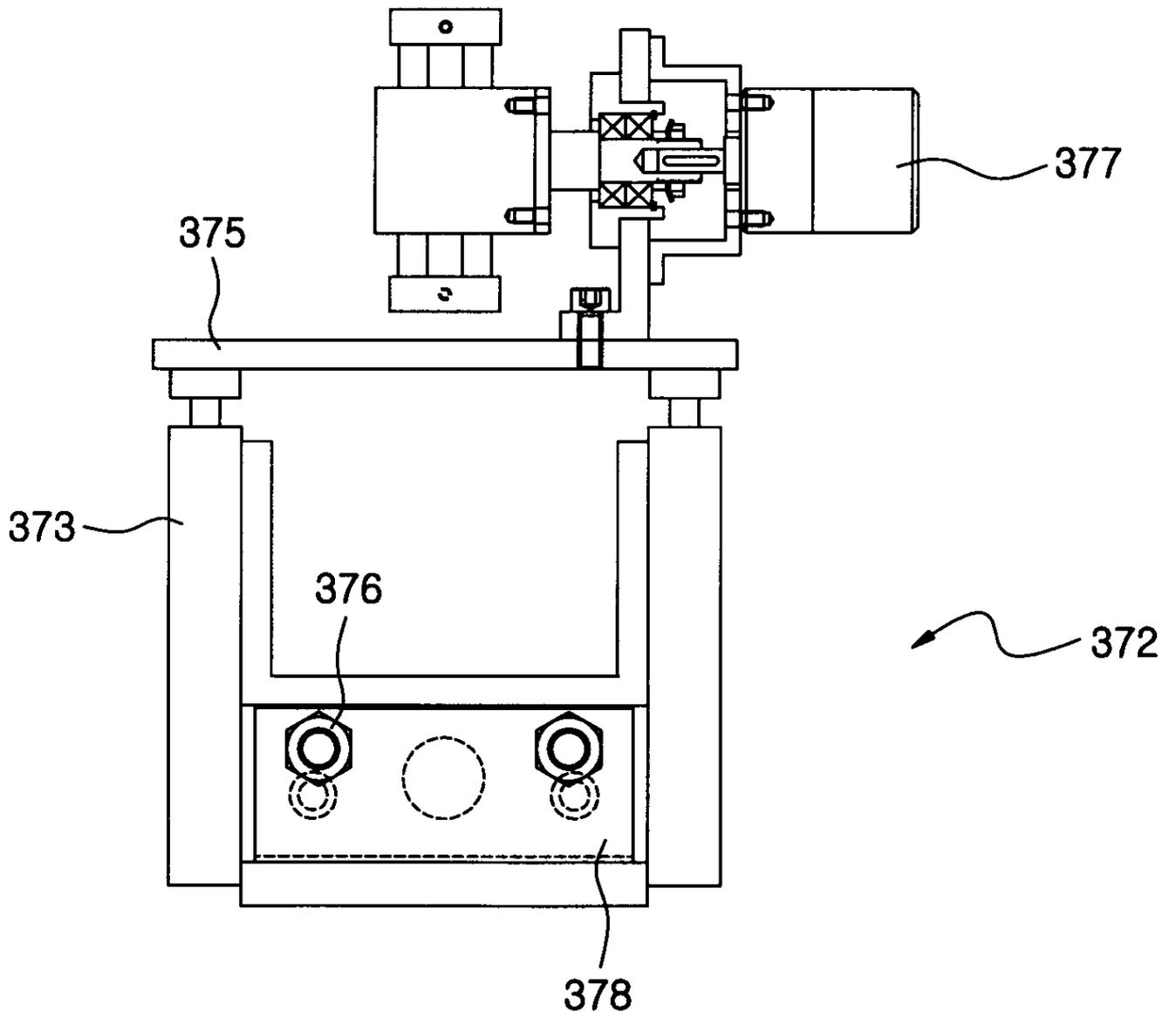
14c



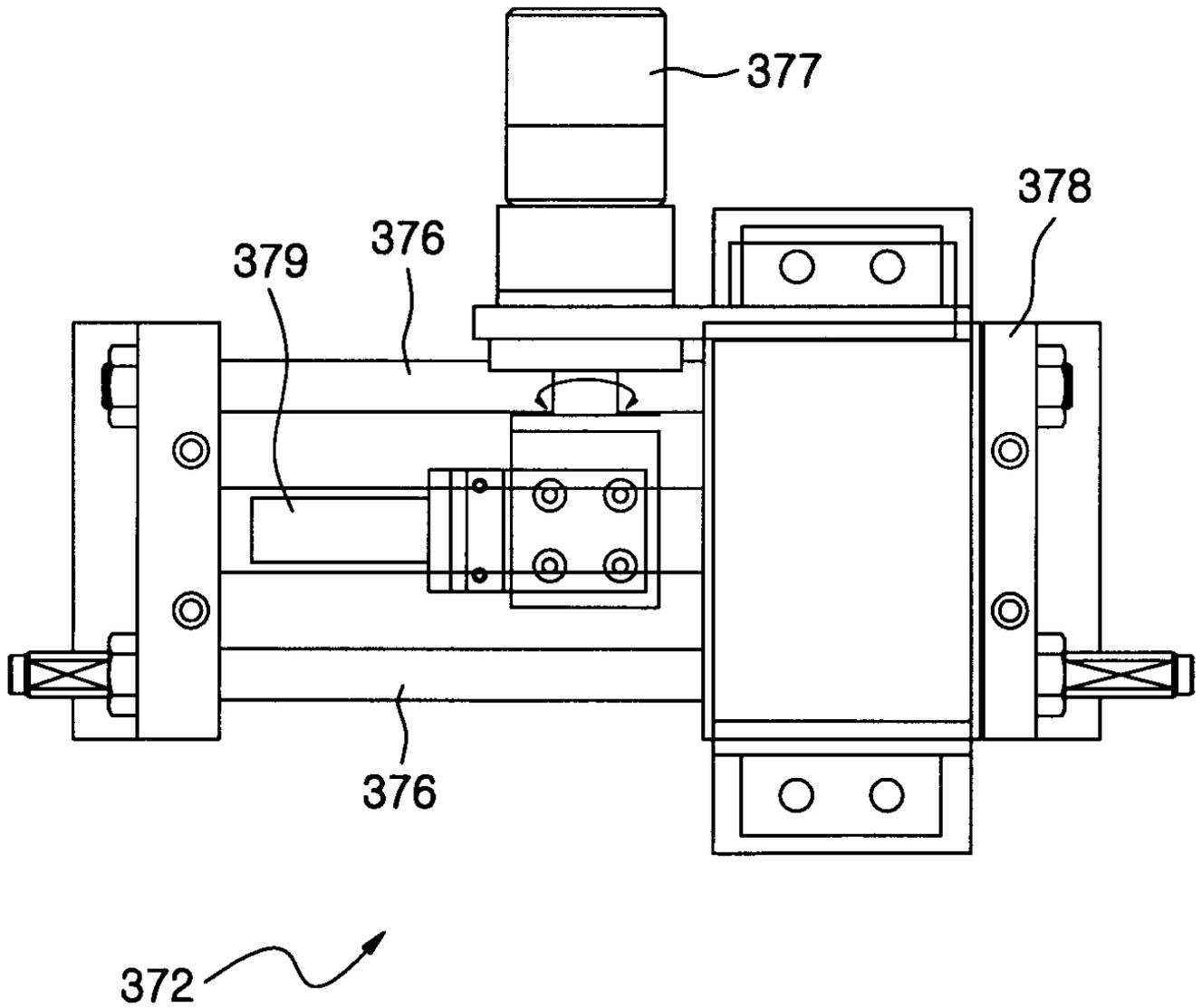
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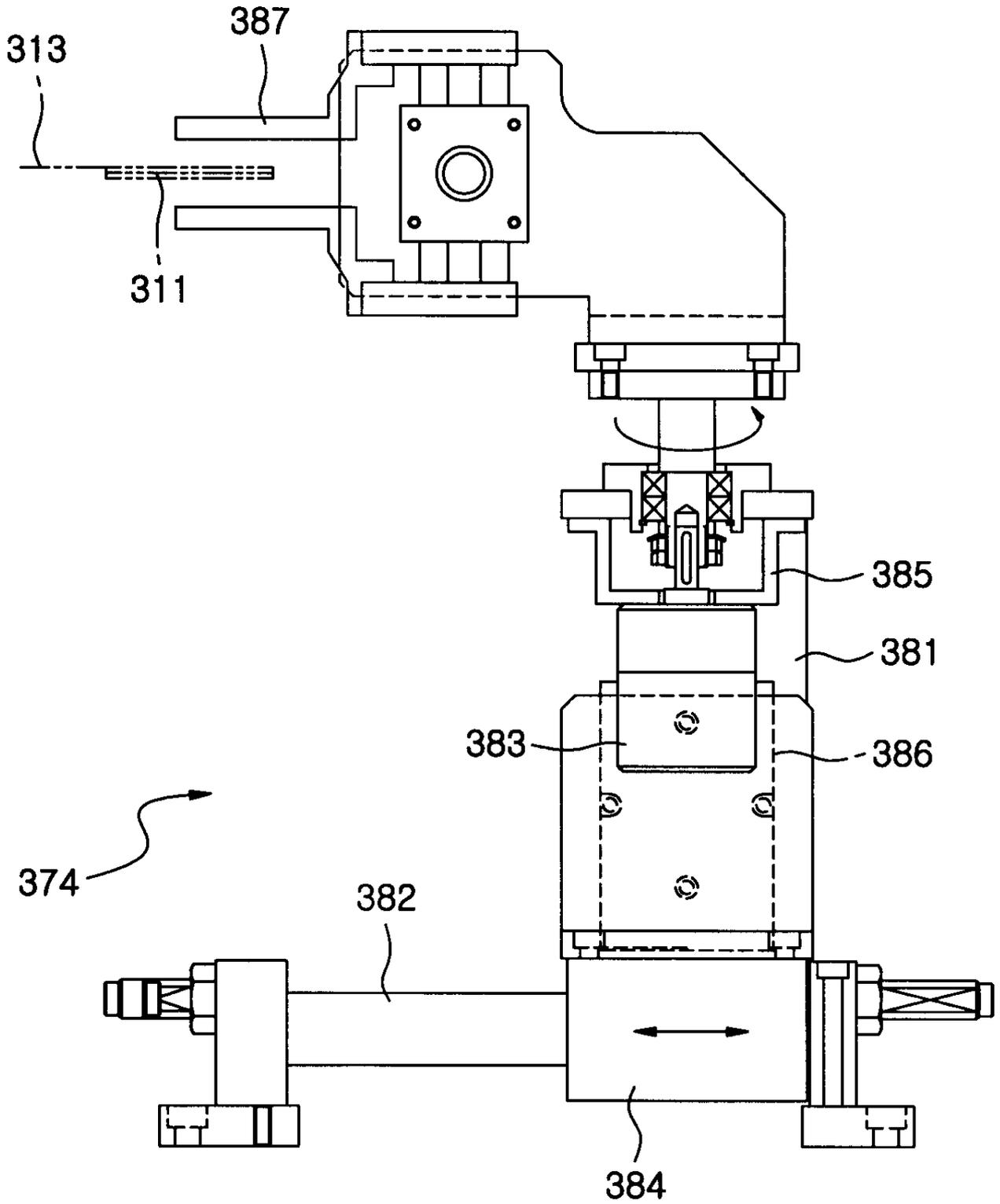
15b



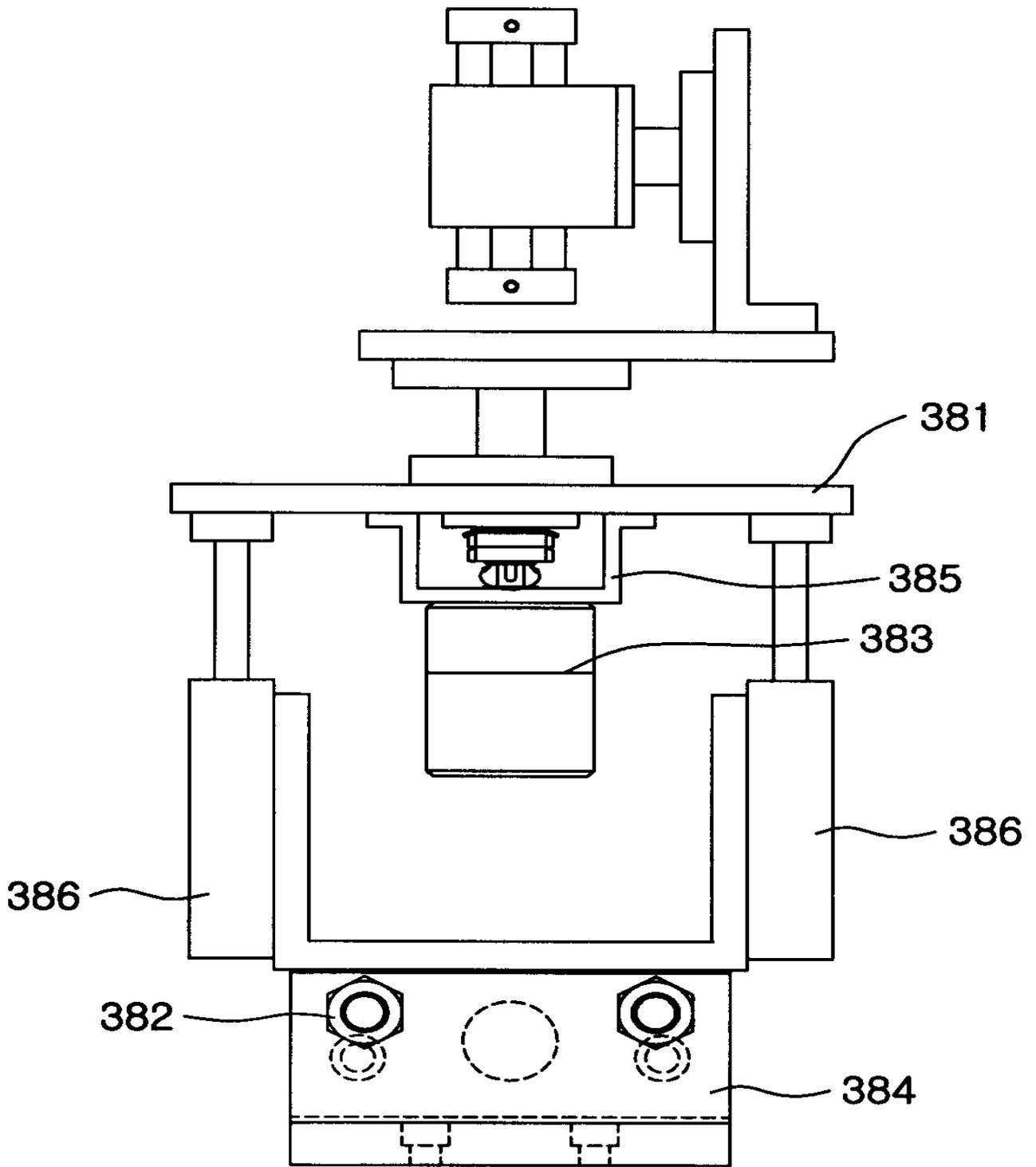
15c



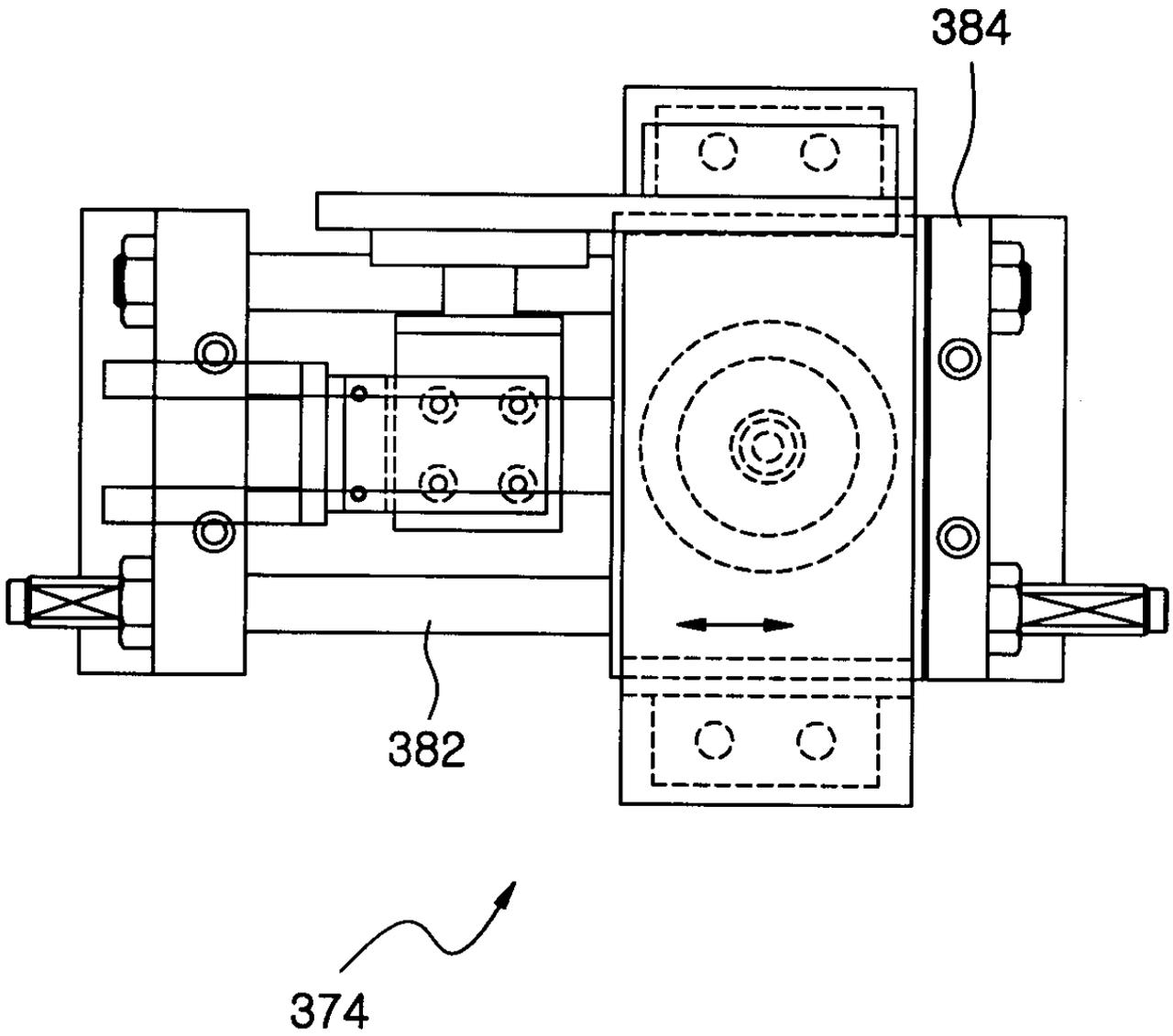
16a



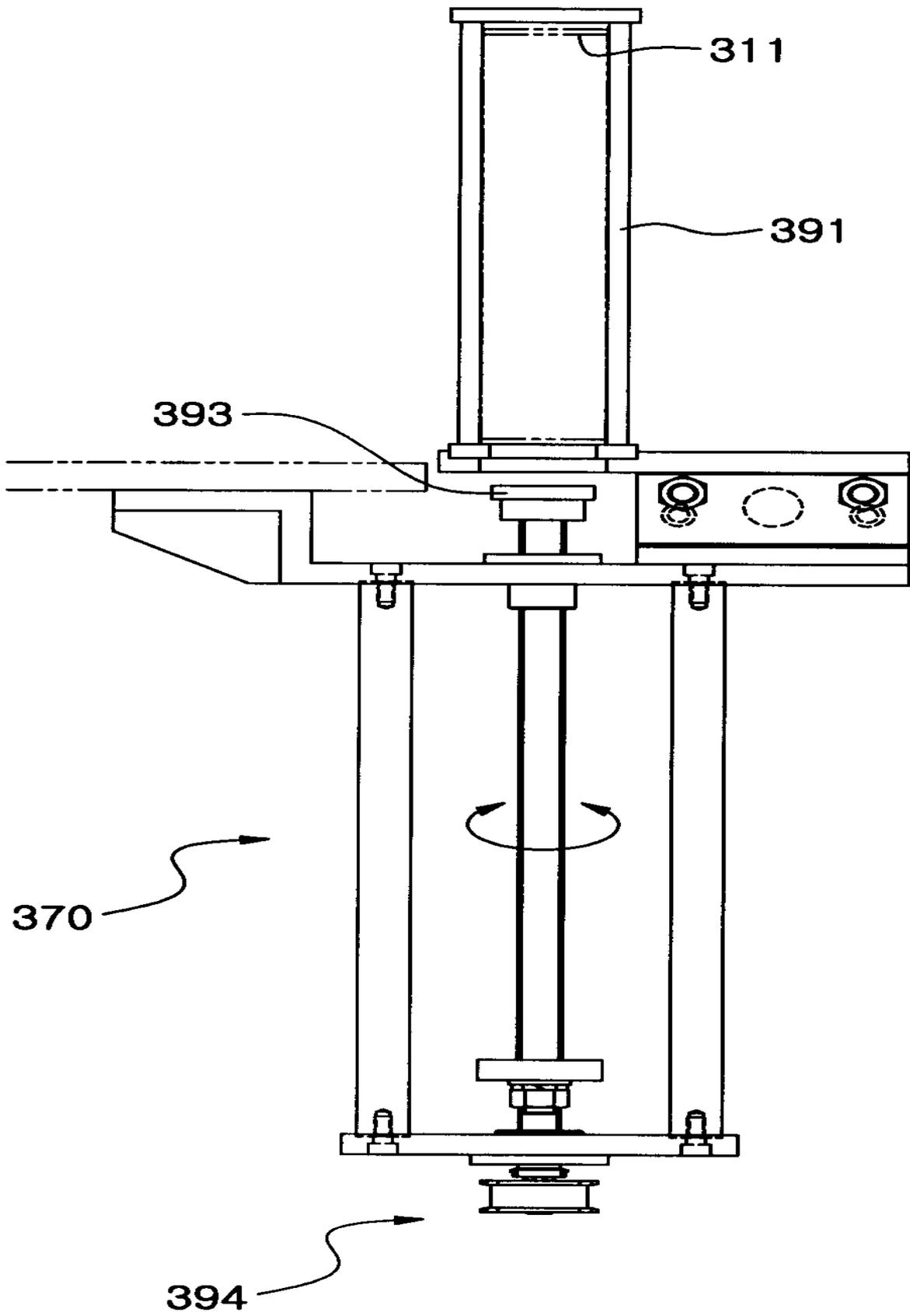
16b



16c



17a



17b

