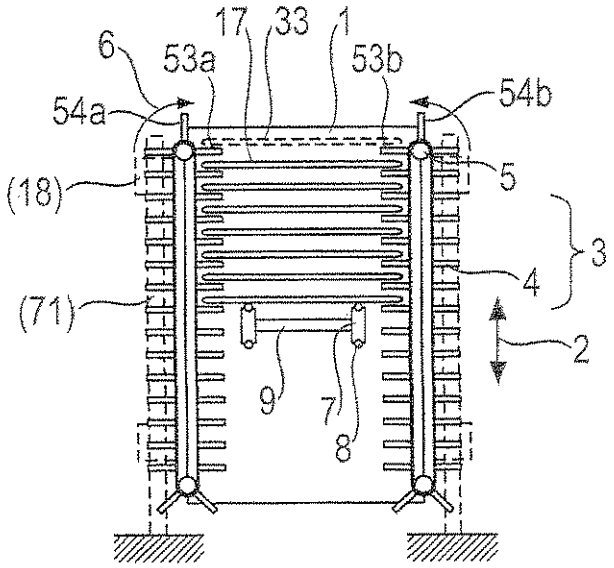


Fig. 1

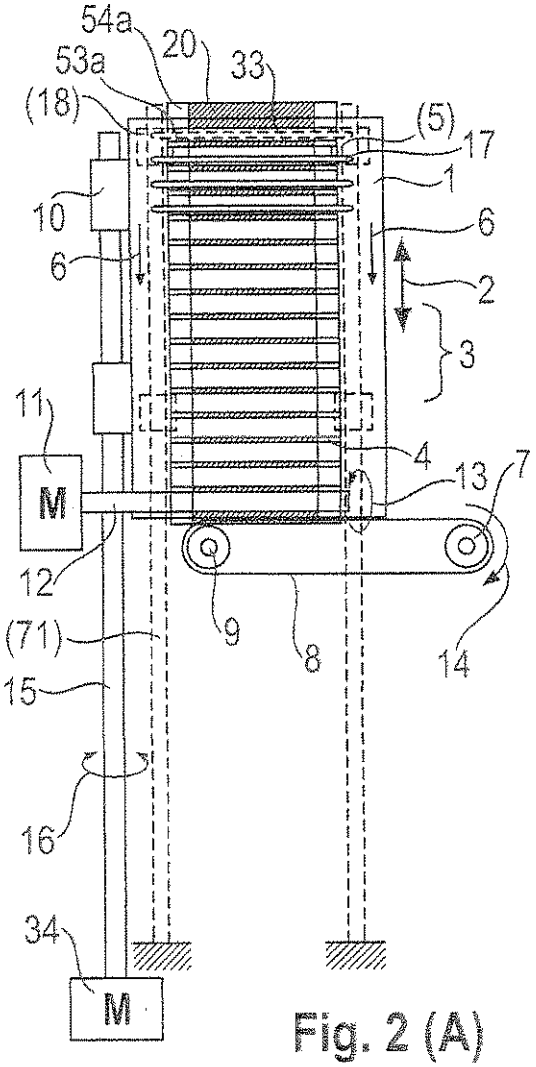


Fig. 2 (A)

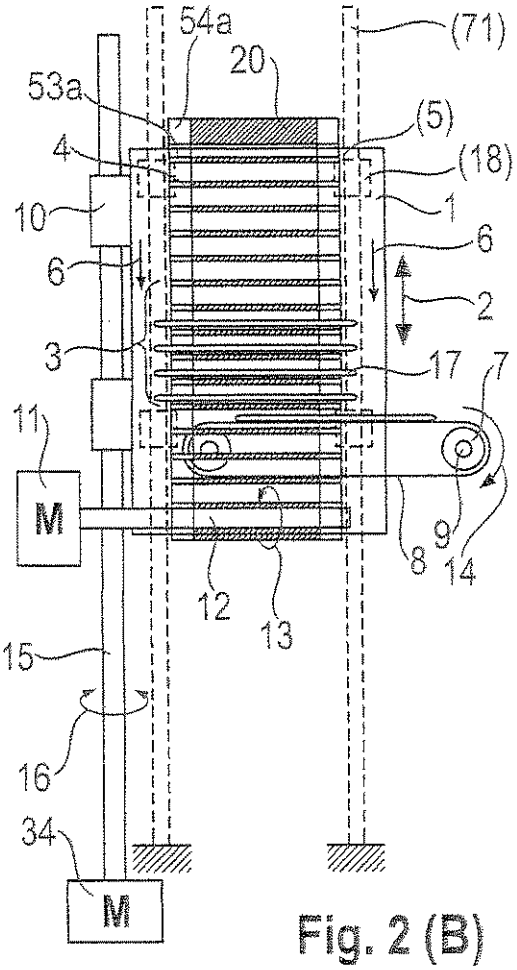


Fig. 2 (B)

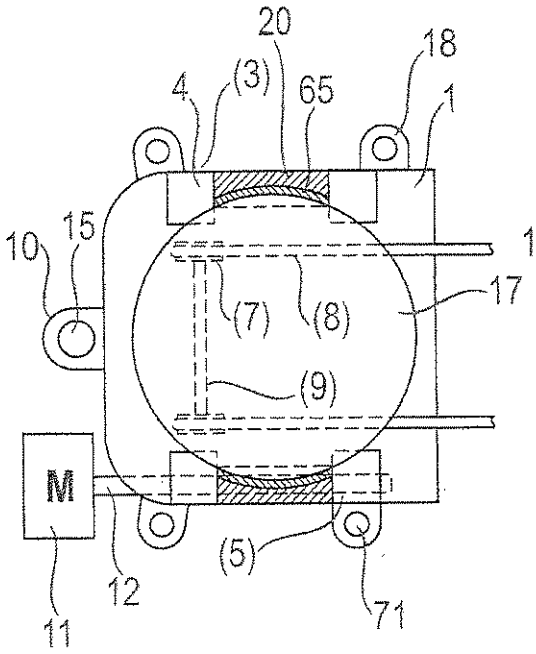


Fig. 3 (A)

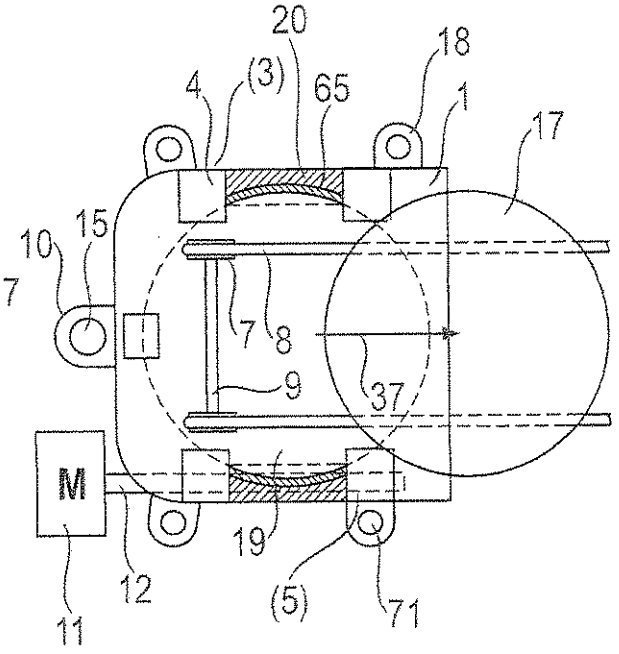


Fig. 3 (B)

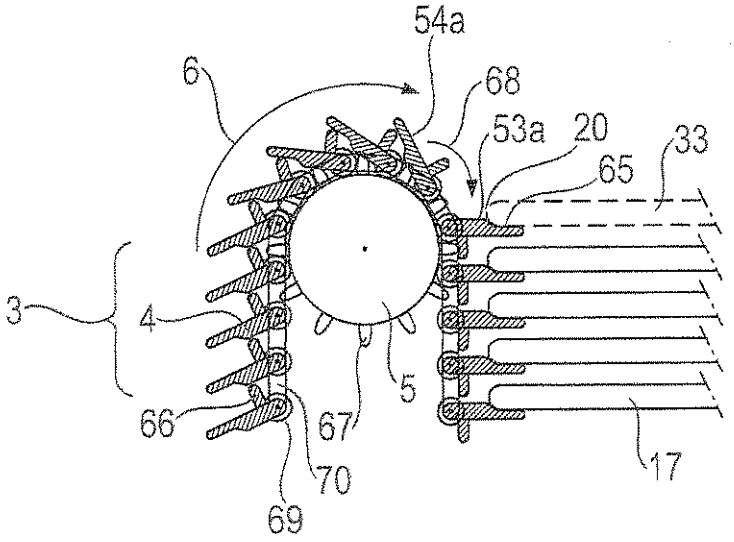


Fig. 3 (C)

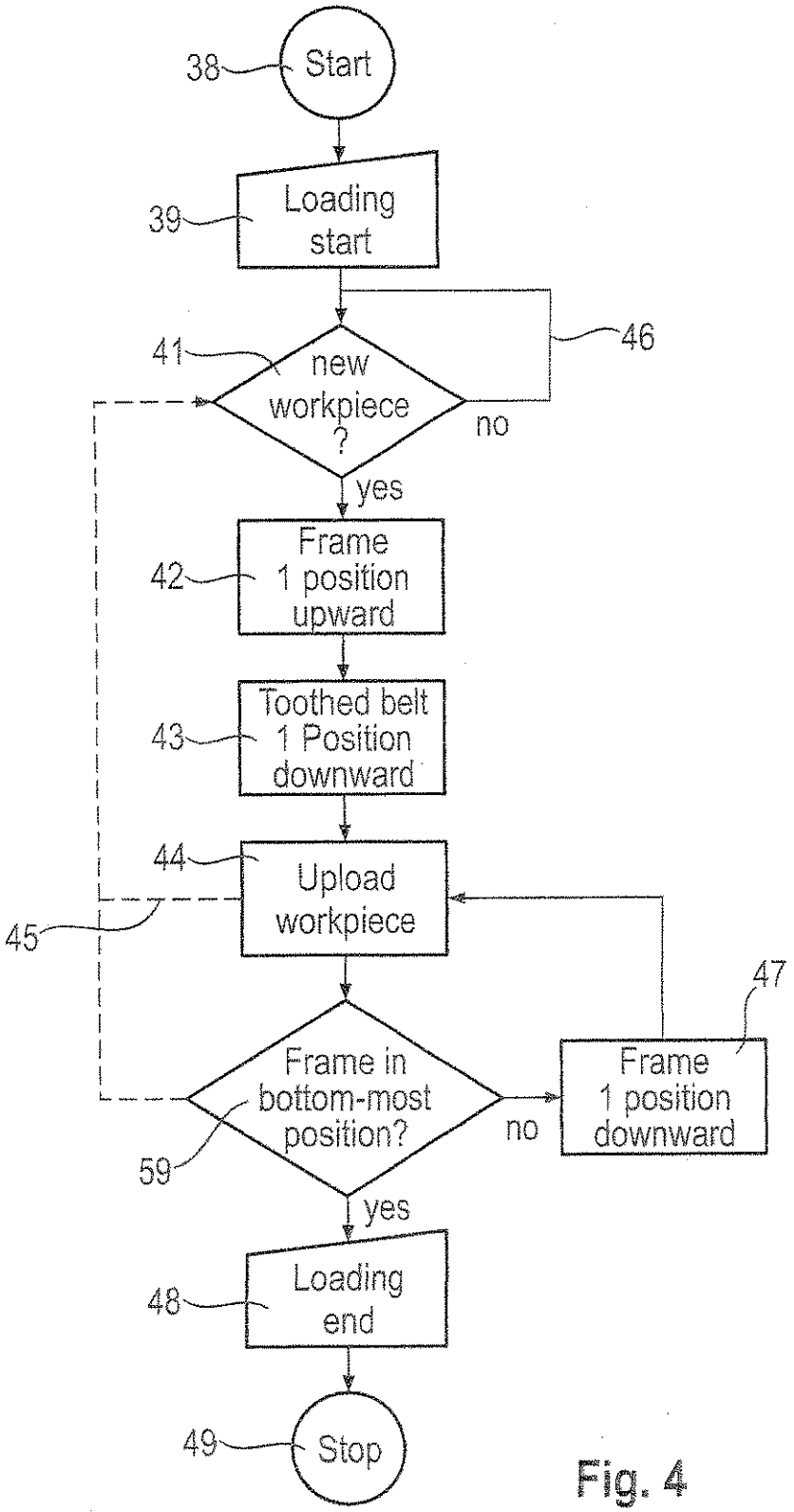

38
Start
39
Loading start
41
new workpiece ?
46
no
yes
42
Frame 1 position upward
43
Toothed belt 1 Position downward
44
Upload workpiece
45
47
Frame in bottom-most position?
59
Frame 1 position downward
no
yes
48
Loading end
49
Stop

Fig. 4

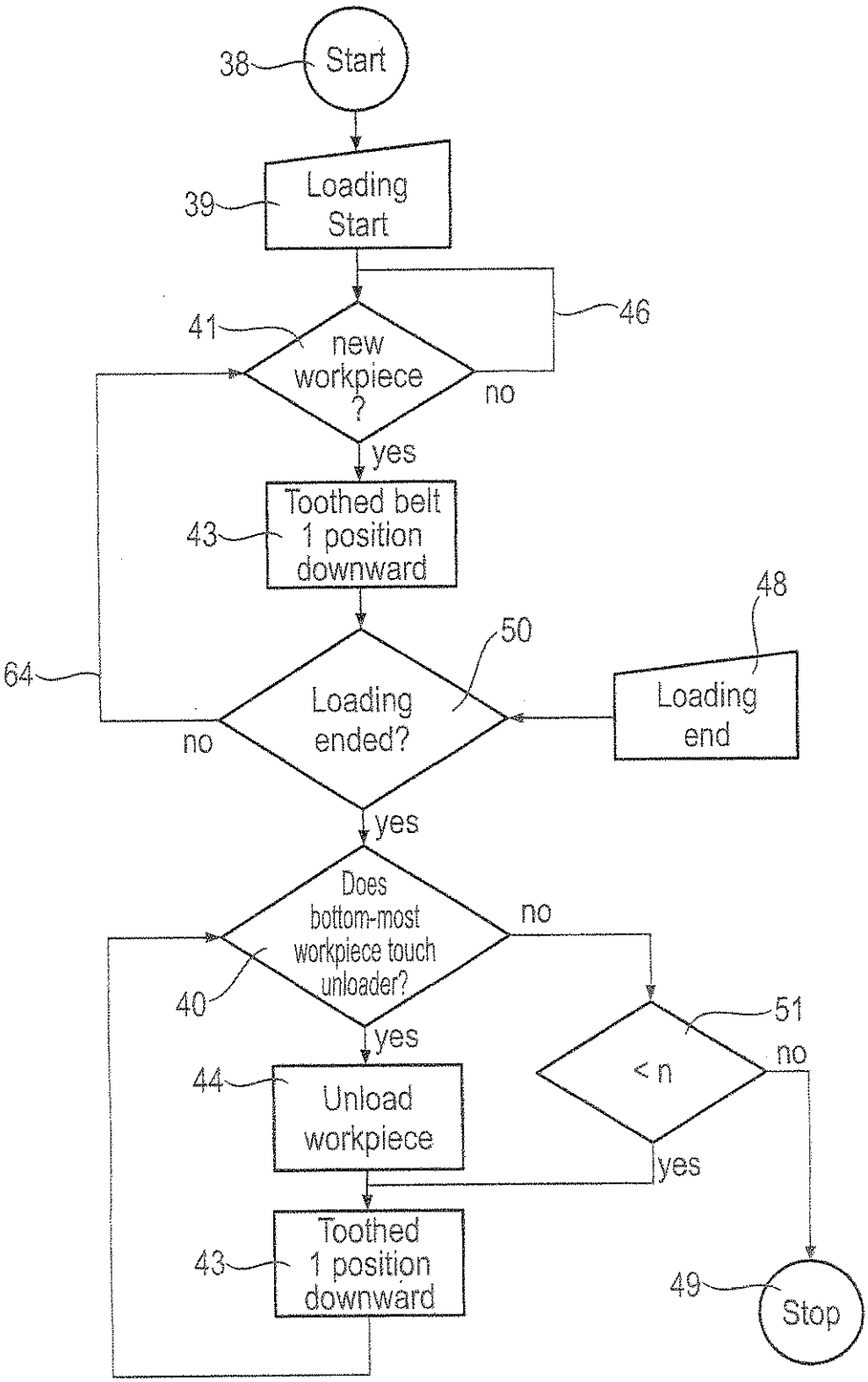

38
Start
39
Loading Start
41
new workpiece ?
46
no
yes
43
Toothed belt 1 position downward
48
50
64
Loading ended?
Loading end
no
yes
Does bottom-most workpiece touch unloader?
no
40
yes
51
< n
no
44
Unload workpiece
yes
43
Toothed 1 position downward
49
Stop

Fig. 5

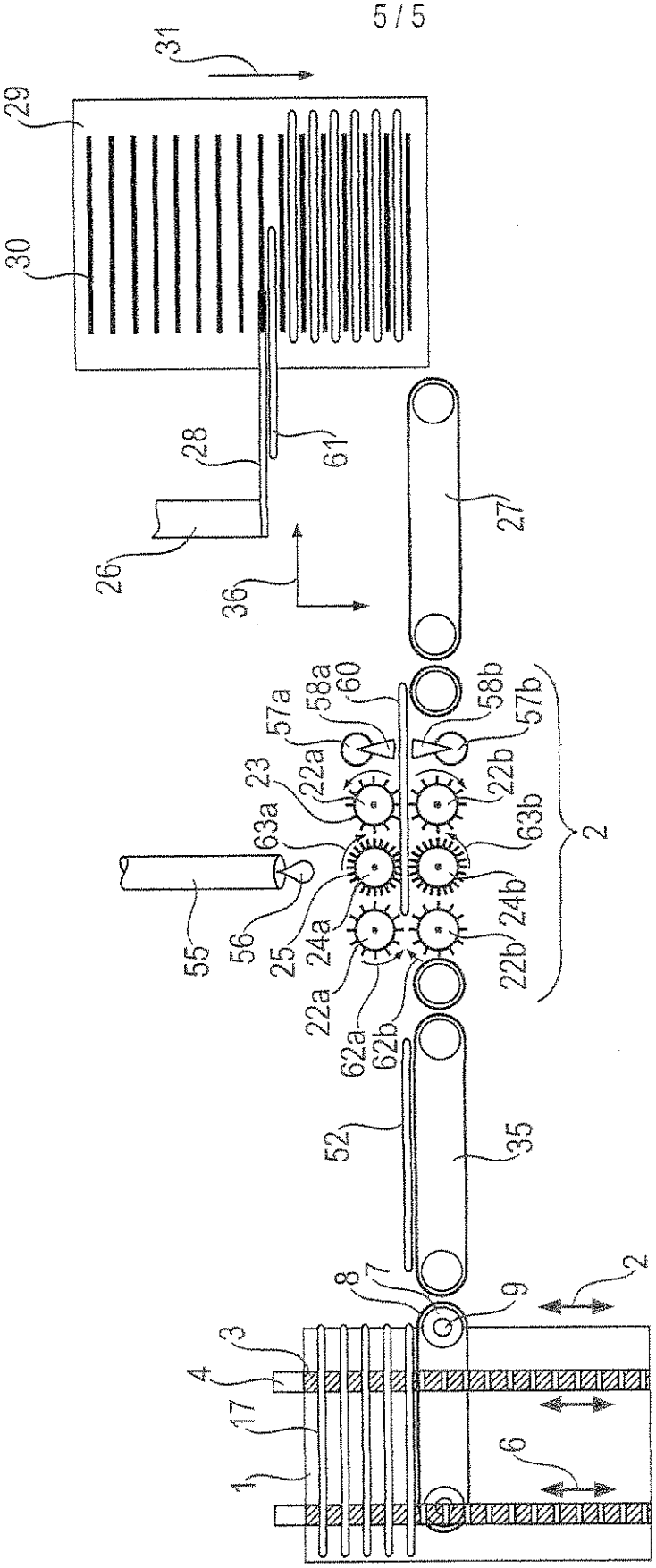

31
29
30
28
61
26
36
27
58a
60
58b
57a
57b
23
22a
22b
63a
63b
2
55
56
25
24a
24b
22a
22b
62a
62b
52
35
8
7
9
2
3
4
17
1
6

Fig. 6