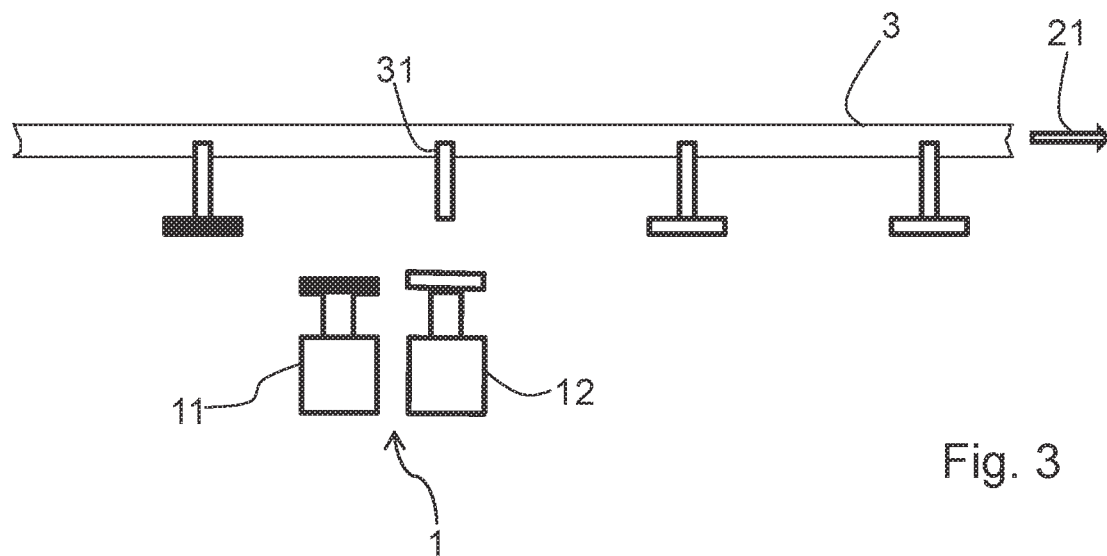
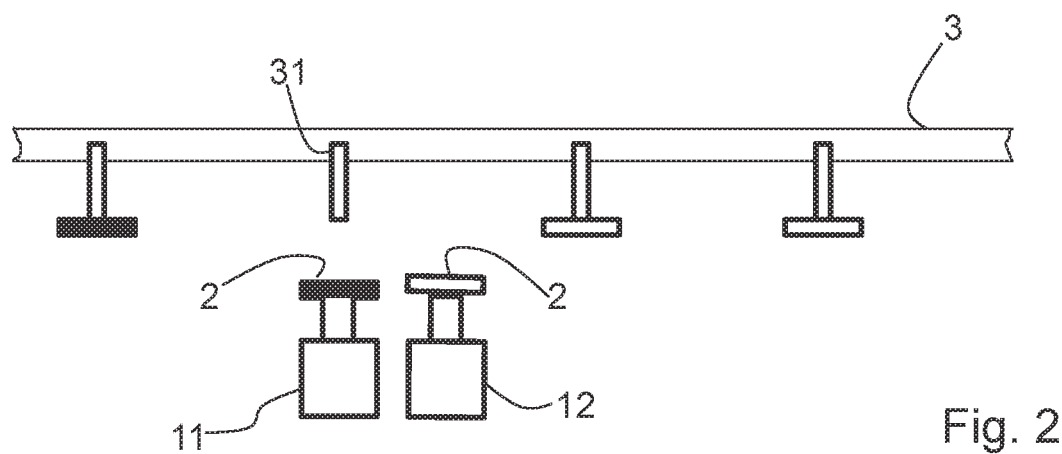
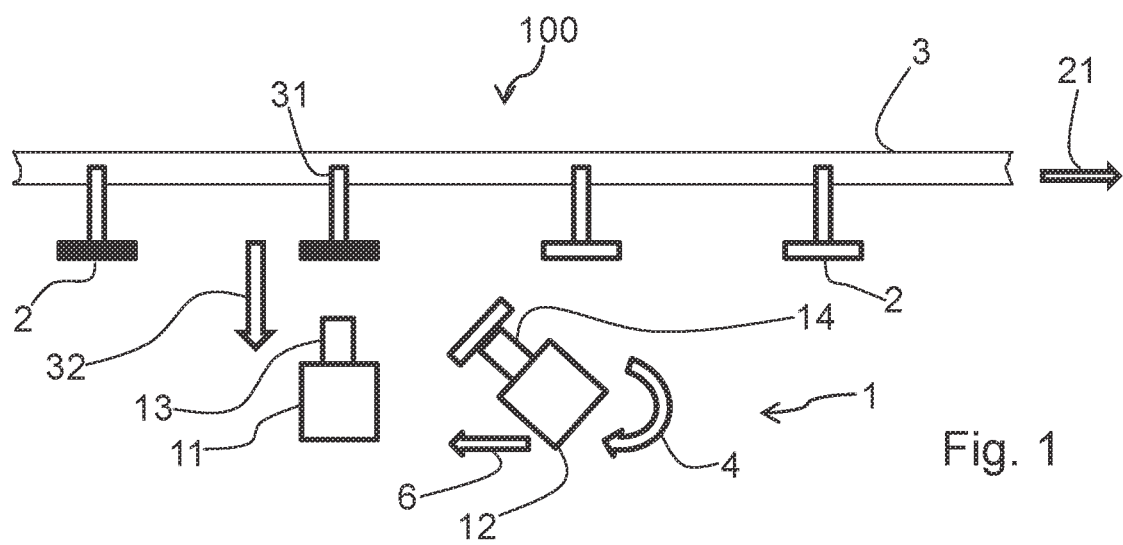


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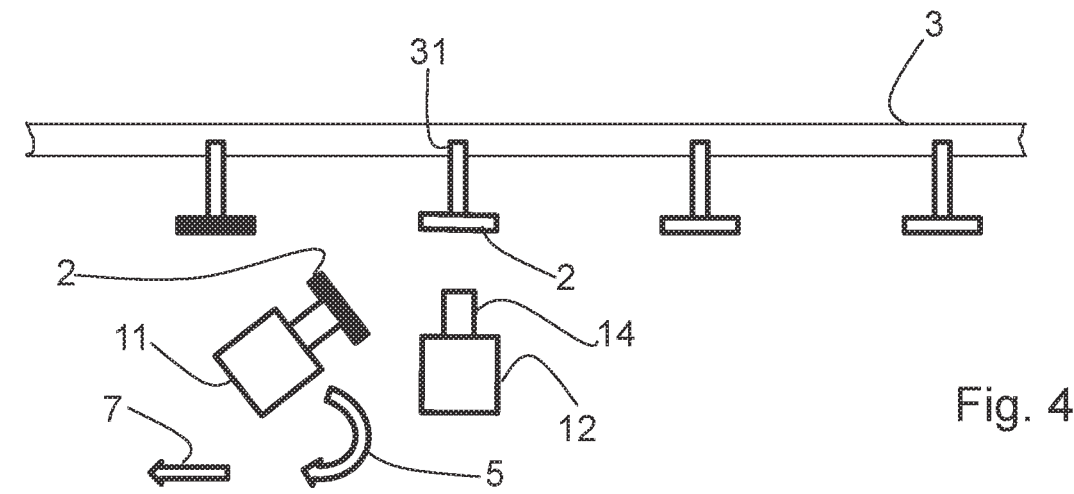


Fig. 4

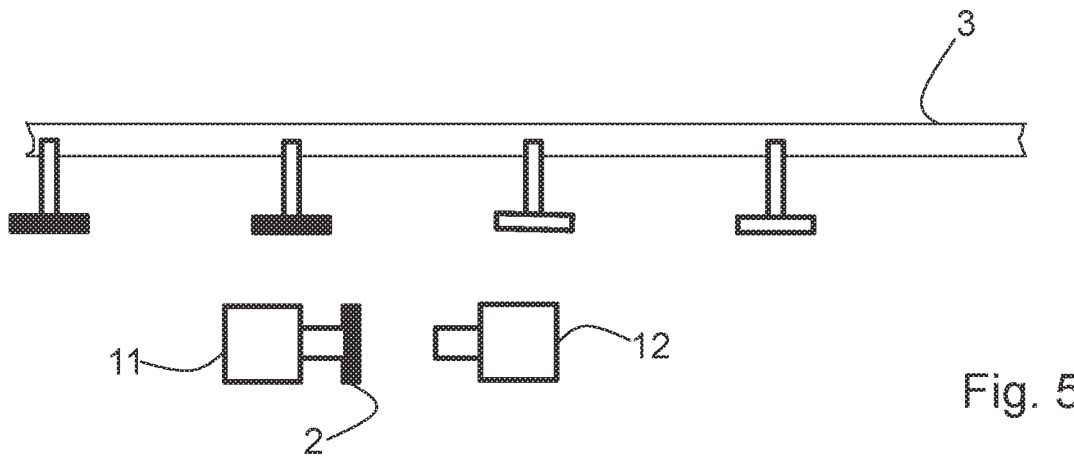


Fig. 5

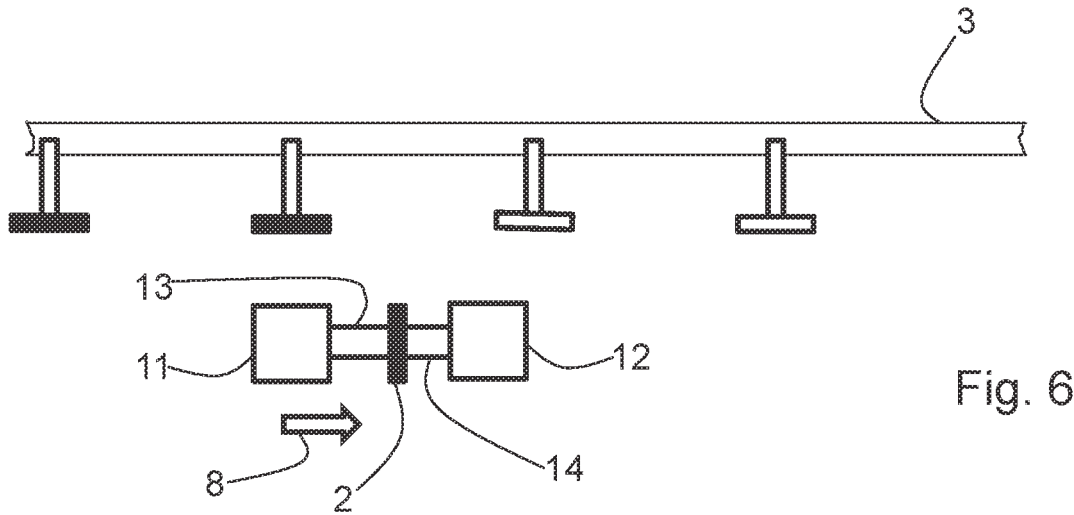


Fig. 6

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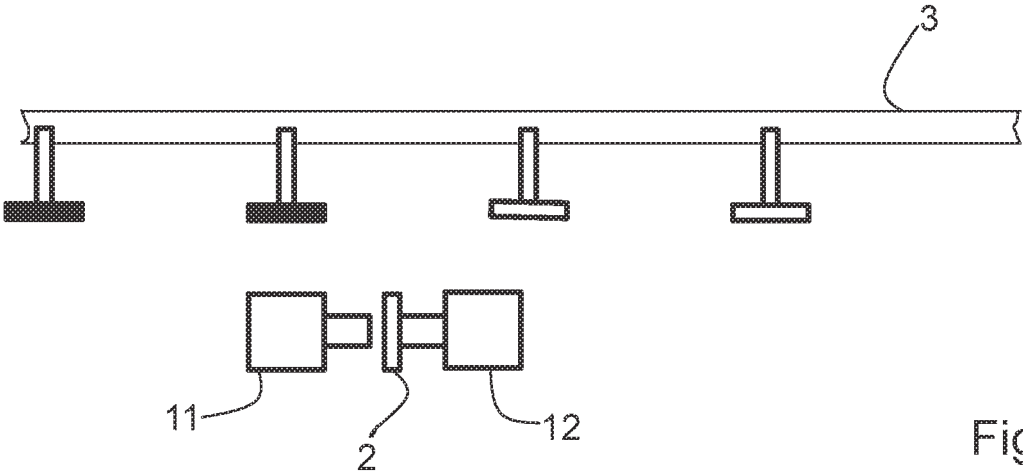


Fig. 7

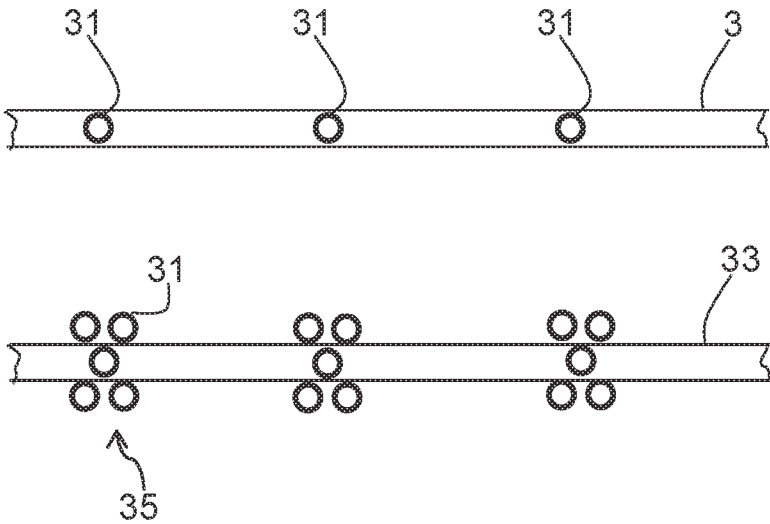


Fig. 8

total cycle (ms)	180	30	30	30	30	30	30
rotate turret	90				30	30	30
turret drop on 1st flipping arm	30	30					
turret pick on 2nd flipping arm	30			30			
slide 1st flipping arm	90		30	30	30		
slide 2nd flipping arm	150	30	30		30	30	30
slow swing down	60			30	30		
fast swing down	30				30		
transfer	30					30	
slow swing up	60	30					30
fast swing up	30						30

Fig. 9

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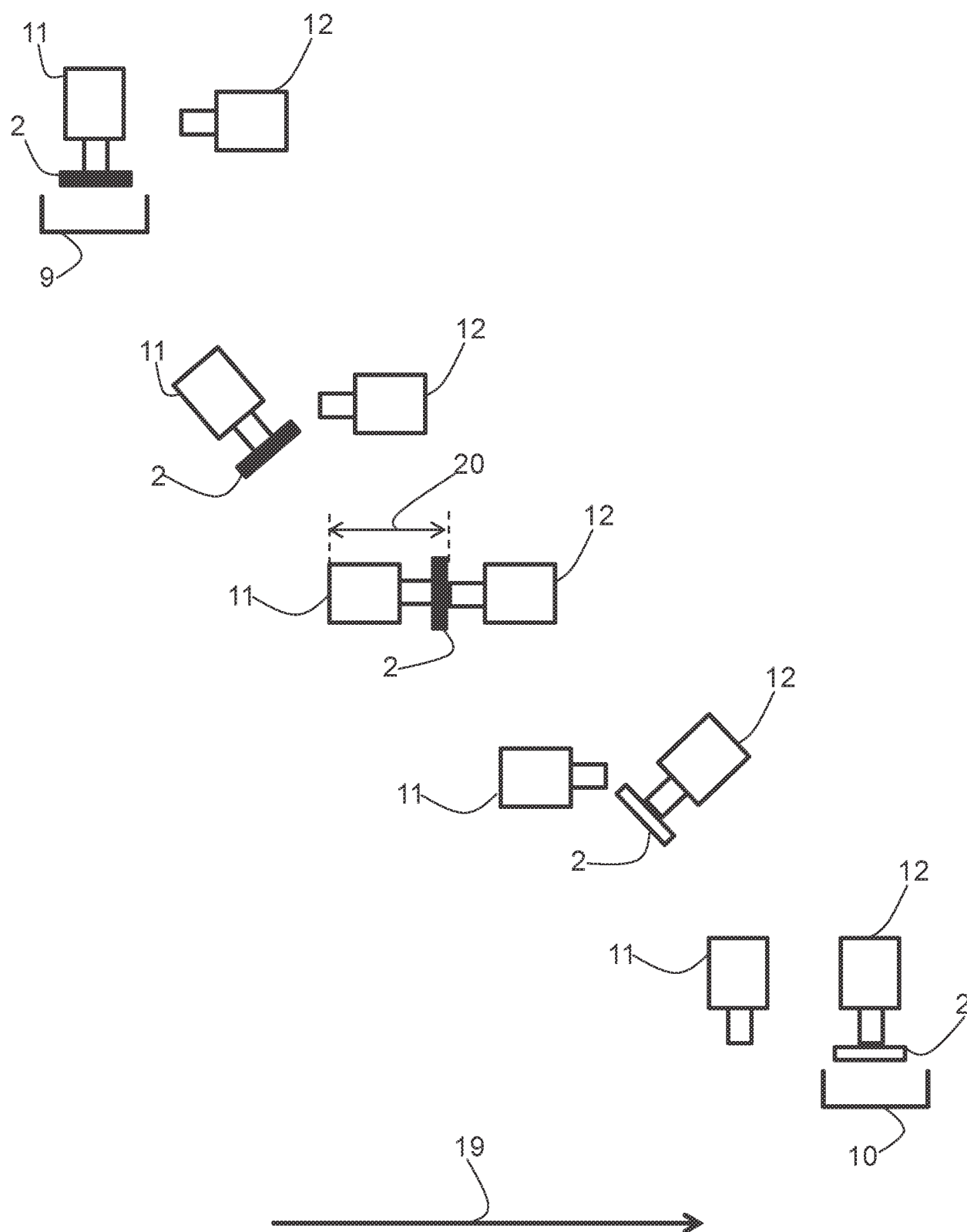


Fig. 10

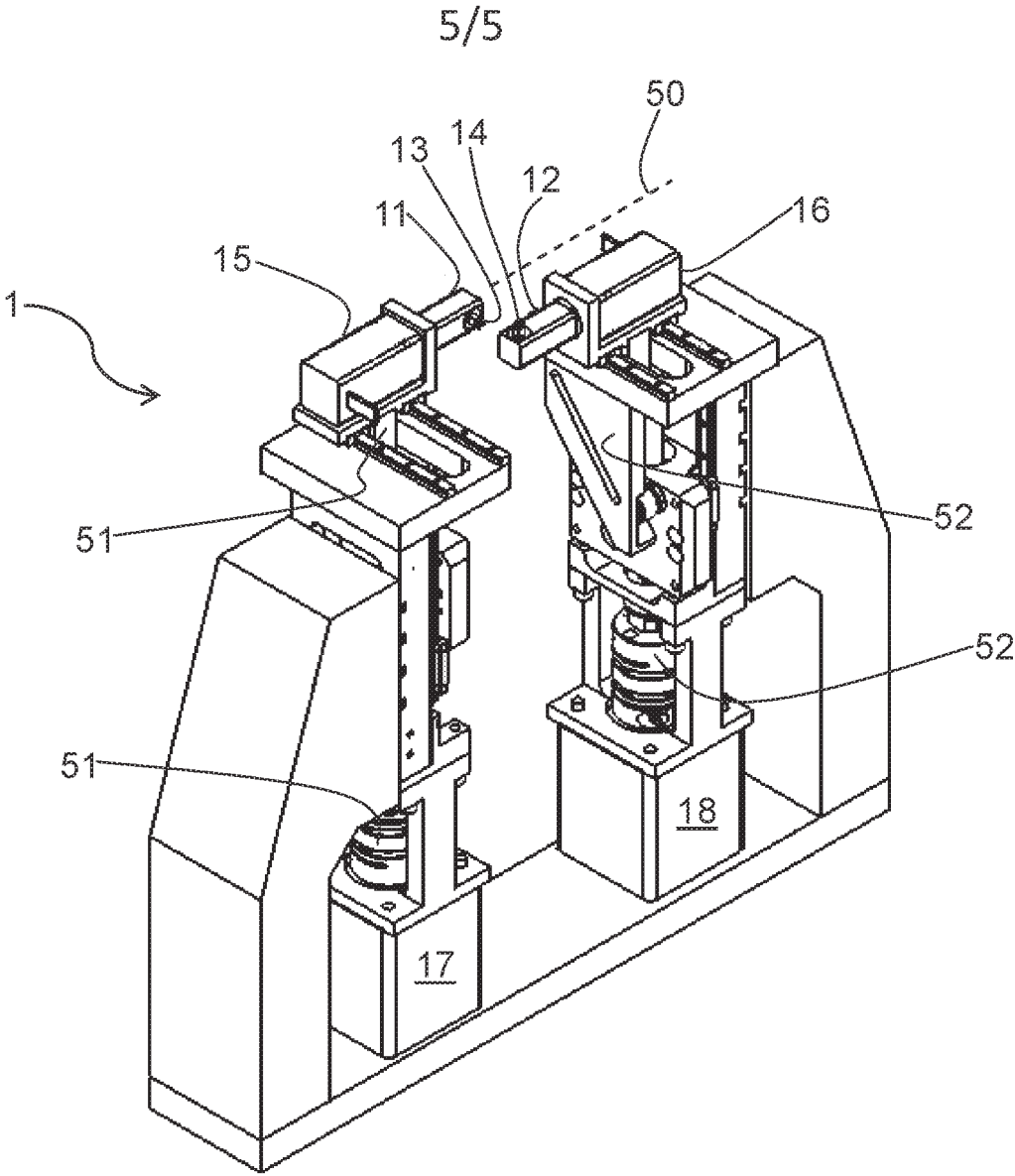


Fig. 11