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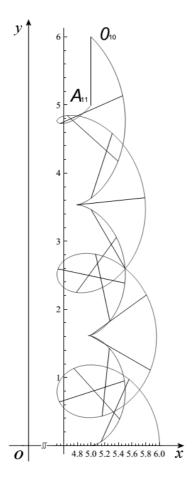


Fig. 11. The orbit of the edge of 11-th frame.

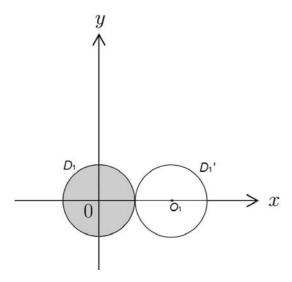


Fig. 12. The fixed disc  $D_1$  and the rolling disc  $D'_1$ .

## $\angle O_{n-2}O_{n-1}A_n$ .

In order to obtain the relation between  $\alpha_k$  and the fold angle  $\beta$  of the card, it suffices to observe the basic unit with the fold angle  $\beta$  (Fig. 9). In Fig. 9, C denotes the midpoint between B and B', and C' denotes the orthogonal projection of C to the x-axis. Then, we have three right triangles:  $\triangle OCC'$  with  $\triangle OC'C = \frac{\pi}{2}$  and  $\triangle COC' = \frac{\pi}{2}$ 

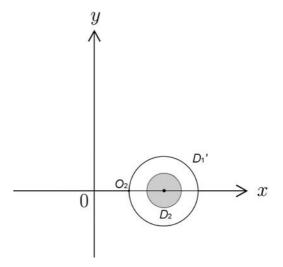


Fig. 13. The attached disc  $D_2$ .

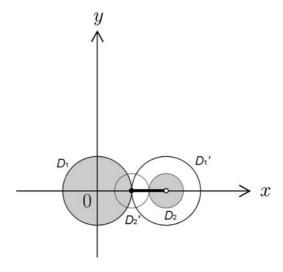


Fig. 14. A nested epitrochoid mechanism (n = 3).

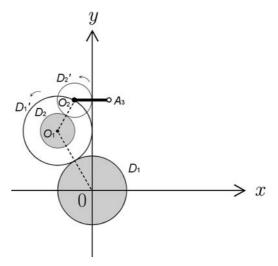


Fig. 15. A nested epitrochoid mechanism (n = 3).