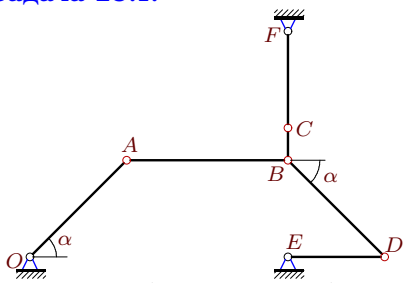
Механизм с двумя степенями свободы

В указанном положении механизма заданы угловые скорости двух его звеньев. Длины звеньев даны в сантиметрах. Стержни, направление которых не указано, считать горизонтальными или вертикальными. Найти угловые скорости всех звеньев механизма.

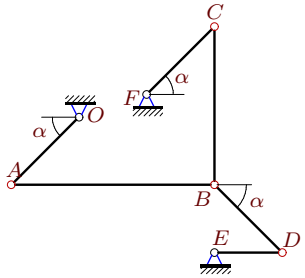
Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.158.)

Задача 25.1. *Аксенов Юрий*



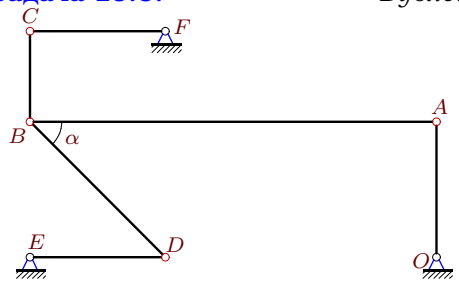
$\omega_{CF_z} = -10\frac{1}{c}$, $\omega_{DE_z} = -5\frac{1}{c}$, $AB = 5$, $BC = 1$, $DE = 3$, $CF = 3$, $OA = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.2. *Бондаренко В.*



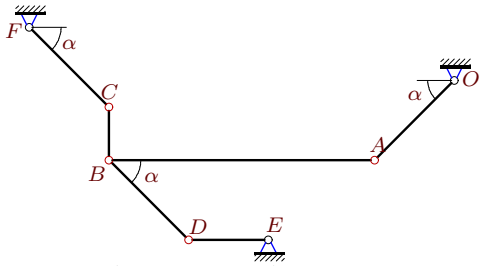
$\omega_{OA_z} = -21\frac{1}{c}$, $\omega_{CF_z} = -63\frac{1}{c}$, $AB = 9$, $BC = 7$, $DE = 3$, $OA = CF = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.3. *Бублей Александр*



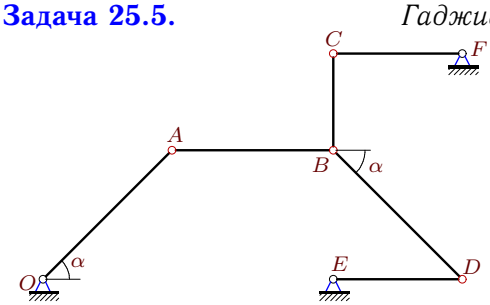
$\omega_{OA_z} = \omega_{CF_z} = 6\frac{1}{c}$, $AB = 9$, $BC = 2$, $DE = 3$, $OA = 3$, $CF = 3$, $BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.4. *Воробьев Кирилл*



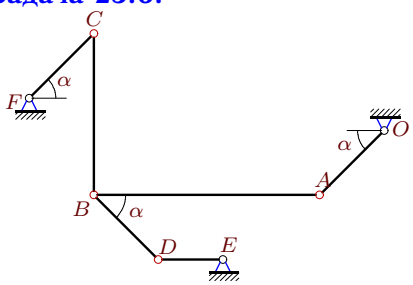
$\omega_{OA_z} = 1\frac{1}{c}$, $\omega_{DE_z} = 2\frac{1}{c}$, $AB = 10$, $BC = 2$, $DE = 3$, $OA = CF = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.5. *Гаджиев Джамал*



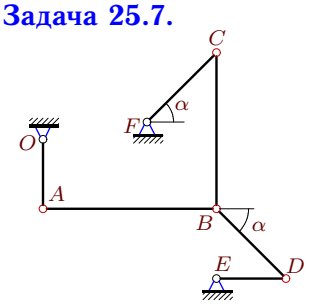
$\omega_{CF_z} = \omega_{DE_z} = -15\frac{1}{c}$, $AB = 5$, $BC = 3$, $DE = 4$, $CF = 4$, $OA = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.6. *Грицай Виктор*



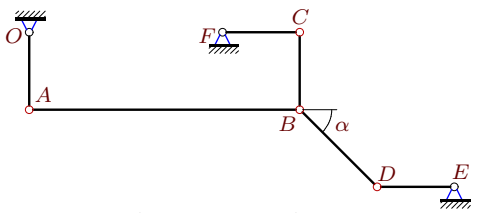
$\omega_{OA_z} = \omega_{DE_z} = 35\frac{1}{c}$, $AB = 7$, $BC = 5$, $DE = 2$, $OA = CF = BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.7. *Желябовская Юля*



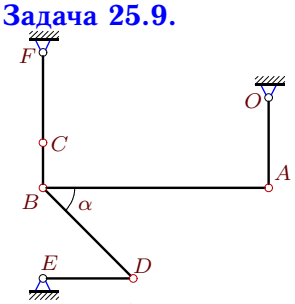
$\omega_{OA_z} = -45\frac{1}{c}$, $\omega_{CF_z} = -135\frac{1}{c}$, $AB = 10$, $BC = 9$, $DE = 4$, $OA = 4$, $CF = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.8. *Зайцева Евгения*



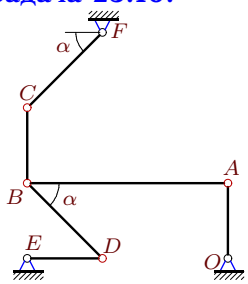
$\omega_{OA_z} = -7\frac{1}{c}$, $\omega_{DE_z} = 7\frac{1}{c}$, $AB = 7$, $BC = 2$, $DE = 2$, $OA = 2$, $CF = 2$, $BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.9. *Колесник Анастасия*



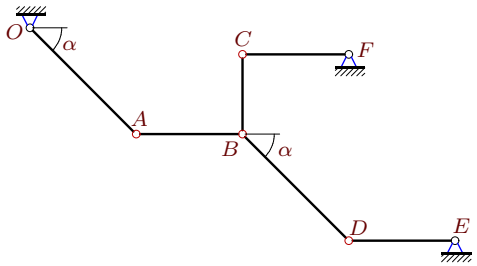
$\omega_{OA_z} = 1\frac{1}{c}$, $\omega_{CF_z} = -2\frac{1}{c}$, $AB = 10$, $BC = 2$,
$DE = 4$, $OA = 4$, $CF = 4$, $BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.10. *Костюков Дмитрий*



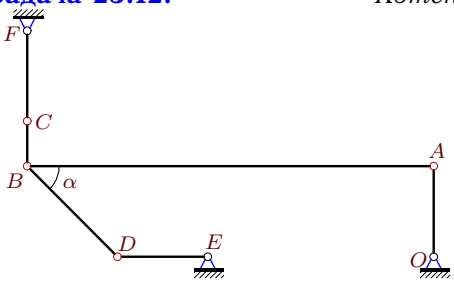
$\omega_{CF_z} = -8\frac{1}{c}$, $\omega_{DE_z} = 4\frac{1}{c}$, $AB = 8$, $BC = 3$,
$DE = 3$, $OA = 3$, $CF = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.11. *Коротеев Александр*



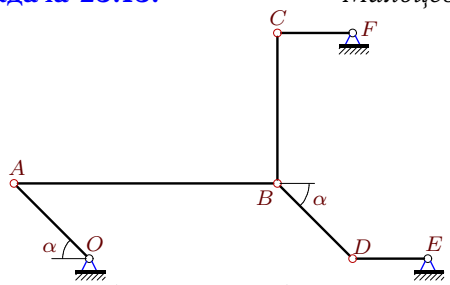
$\omega_{CF_z} = 9\frac{1}{c}$, $\omega_{DE_z} = 3\frac{1}{c}$, $AB = 4$, $BC = 3$,
$DE = 4$, $CF = 4$, $OA = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.12. *Котенко Вячеслав*



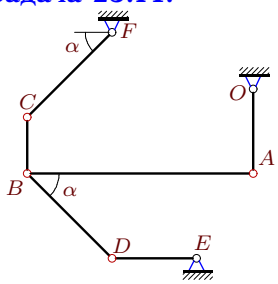
$\omega_{OA_z} = \omega_{CF_z} = -1\frac{1}{c}$, $AB = 9$, $BC = 1$,
$DE = 2$, $OA = 2$, $CF = 2$, $BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.13. *Мальцев Александр*



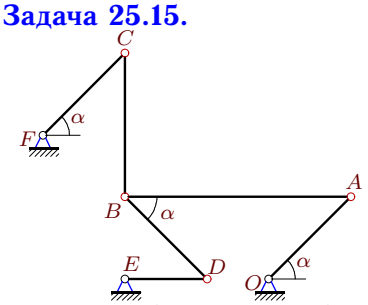
$\omega_{OA_z} = 14\frac{1}{c}$, $\omega_{DE_z} = 28\frac{1}{c}$, $AB = 7$, $BC = 4$,
$DE = 2$, $CF = 2$, $OA = BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.14. *Настаева Зухра*



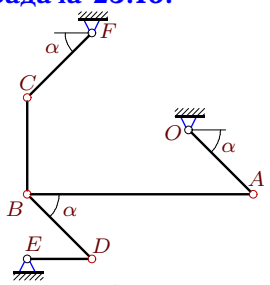
$\omega_{OA_z} = -8\frac{1}{c}$, $\omega_{DE_z} = -16\frac{1}{c}$, $AB = 8$, $BC = 2$,
$DE = 3$, $OA = 3$, $CF = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.15. *Светлов Вадим*



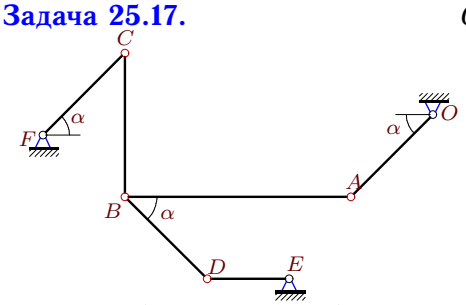
$\omega_{CF_z} = 231\frac{1}{c}$, $\omega_{DE_z} = 77\frac{1}{c}$, $AB = 11$, $BC = 7$,
$DE = 4$, $OA = CF = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.16. *Смирнова Анастасия*



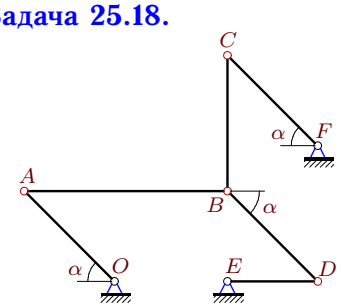
$\omega_{OA_z} = 7\frac{1}{c}$, $\omega_{CF_z} = -14\frac{1}{c}$, $AB = 7$, $BC = 3$,
$DE = 2$, $OA = CF = BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.17. *Степин Илья*



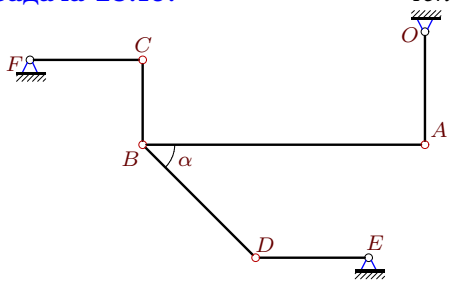
$\omega_{OA_z} = 77\frac{1}{c}$, $\omega_{DE_z} = -77\frac{1}{c}$, $AB = 11$, $BC = 7$, $DE = 4$, $OA = CF = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.18. *Цвирко Федор*



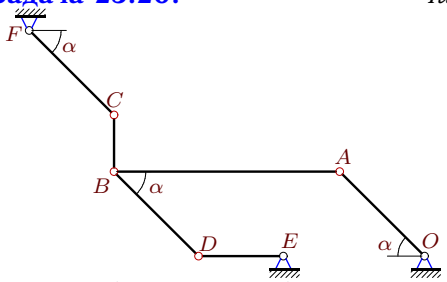
$\omega_{OA_z} = 3\frac{1}{c}$, $\omega_{DE_z} = 9\frac{1}{c}$, $AB = 9$, $BC = 6$, $DE = 4$, $OA = CF = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.19. *Ченцов Максим*



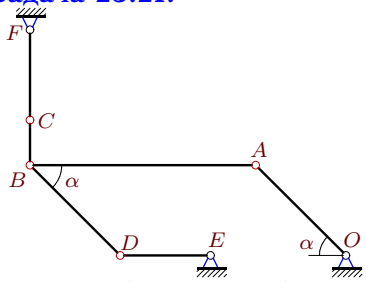
$\omega_{CF_z} = -10\frac{1}{c}$, $\omega_{DE_z} = -5\frac{1}{c}$, $AB = 10$, $BC = 3$, $DE = 4$, $OA = 4$, $CF = 4$, $BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.20. *Чигидина Лиза*



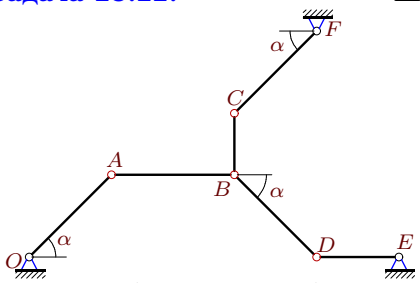
$\omega_{OA_z} = 8\frac{1}{c}$, $\omega_{DE_z} = 24\frac{1}{c}$, $AB = 8$, $BC = 2$, $DE = 3$, $OA = CF = BD = 3\sqrt{2}$, $\alpha = 45°$.

Задача 25.21. *Шабан Михаил*



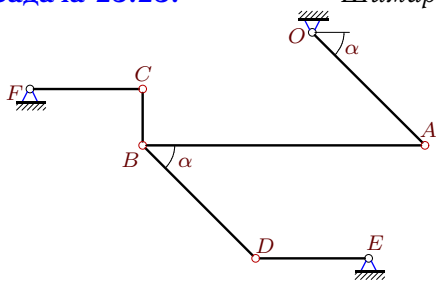
$\omega_{CF_z} = 15\frac{1}{c}$, $\omega_{DE_z} = 5\frac{1}{c}$, $AB = 10$, $BC = 2$, $DE = 4$, $CF = 4$, $OA = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.22. *Шевцов Никита*



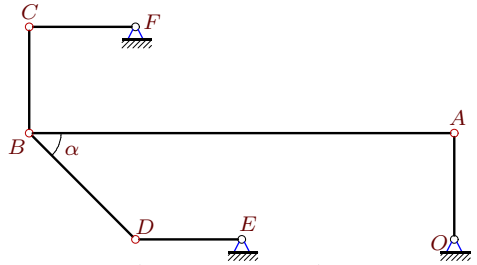
$\omega_{CF_z} = -2\frac{1}{c}$, $\omega_{DE_z} = -1\frac{1}{c}$, $AB = 6$, $BC = 3$, $DE = 4$, $OA = CF = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.23. *Шимарова Светлана*



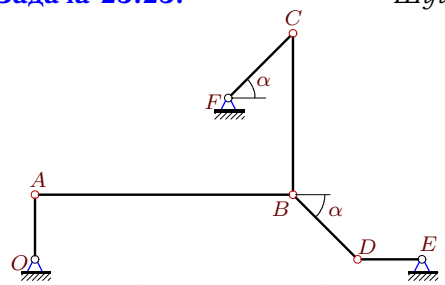
$\omega_{OA_z} = -5\frac{1}{c}$, $\omega_{CF_z} = 10\frac{1}{c}$, $AB = 10$, $BC = 2$, $DE = 4$, $CF = 4$, $OA = BD = 4\sqrt{2}$, $\alpha = 45°$.

Задача 25.24. *Шинкина Анна*



$\omega_{OA_z} = -1\frac{1}{c}$, $\omega_{DE_z} = -3\frac{1}{c}$, $AB = 8$, $BC = 2$, $DE = 2$, $OA = 2$, $CF = 2$, $BD = 2\sqrt{2}$, $\alpha = 45°$.

Задача 25.25. *Шуйчиков Артем*



$\omega_{CF_z} = -4\frac{1}{c}$, $\omega_{DE_z} = -2\frac{1}{c}$, $AB = 8$, $BC = 5$, $DE = 2$, $OA = 2$, $CF = BD = 2\sqrt{2}$, $\alpha = 45°$.