

”

”

”

”

“ ’

， ”

，

152

-

-

“ ”

”

”

”

”

• • •

• •

“ ” 2017 .

”

”

“ ’

，

”

，

152

-

”

”

_____.2017 .

_____.2017 .

• • • . . .

• • • , . . .

“ ” _____ 2017 .

“ ” _____ 2017 .

,

-

,

COSMOSMotion.

,

:

COSMOSMotion,

;

-

-

-

.

,

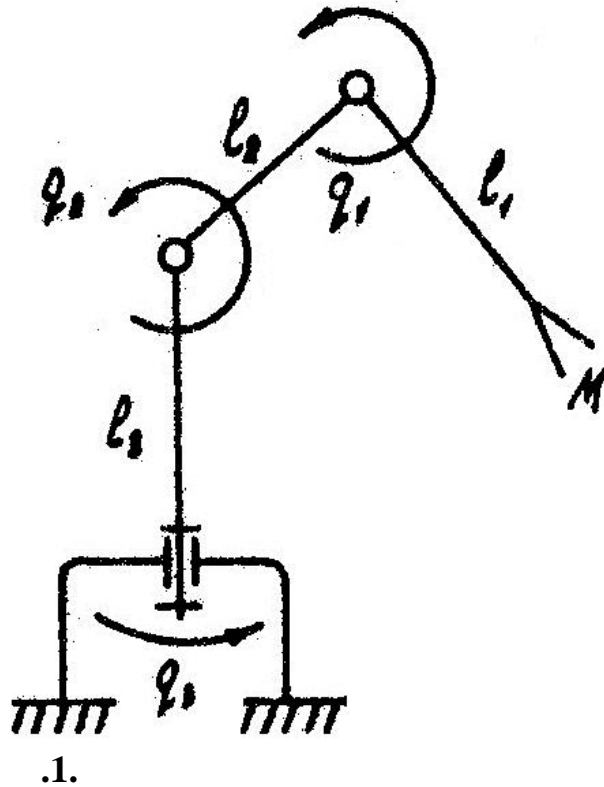
:

-

;

-

.



- 1.
- 2.
- 3.
- 4.

X, Y, Z

t.

q_i ,

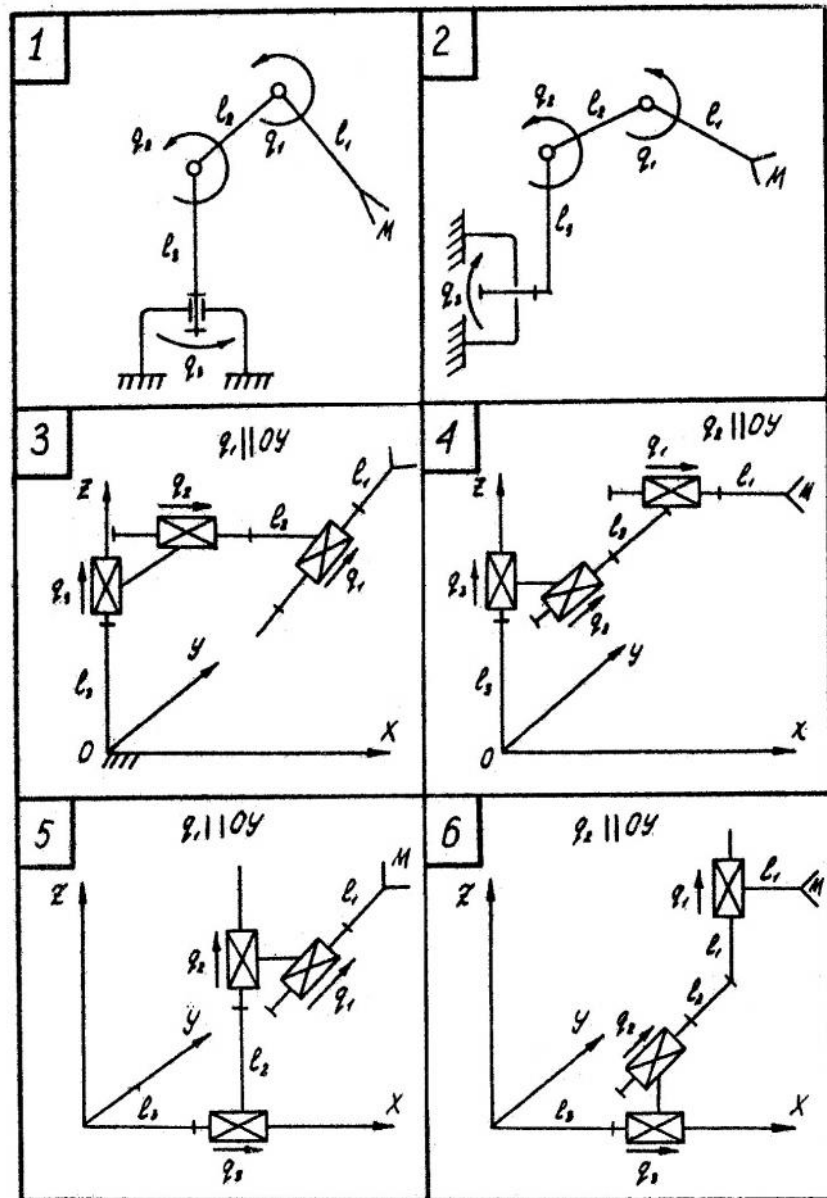
t=0

$$q_{10}=0, q_{20}=0, q_{30}=0, \\ q_{1k}=0, q_{2k}=0, q_{3k}=0$$

t=1c -

. 2.

$$q_i = a_i t^2 + b_i t^3,$$



	1	2	3	4	5	6	7	8	9	10	11
l_1	0,5	0,5	1	2	1	1	1	0,5	0,5	0,5	0,25
l_2	1	0,5	1	1	1	1	1	0,5	0,5	1	0,5
l_3	0,5	1	1	1	1	1	1	1	1	0,5	1
q_1	/2	/4	1	1	1	1	0,5	0,5	0,5	/2	14
q_2	/2		1	1	1	1	0,5	/2	/2	0,5	0,5
q_3	$\pi/4$	$\pi/4$	1	1	1	1	0,5	$\pi/2$	$\pi/2$	π	$\pi/4$

,

3

.1,

- .

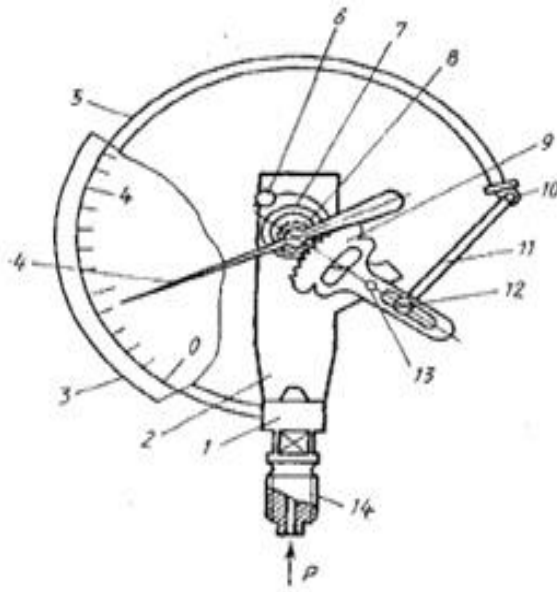
:

- 1.
- 2.
- 3.
- 4.

(, ,)

. .

4.1.



4.1.

	,h,	,
1	5	270
2	4	290
3	6	280
4	3	300
5	5	300
6	4	280
7	3	270
8	6	290
9	5	280
10	6	300

(5.1).

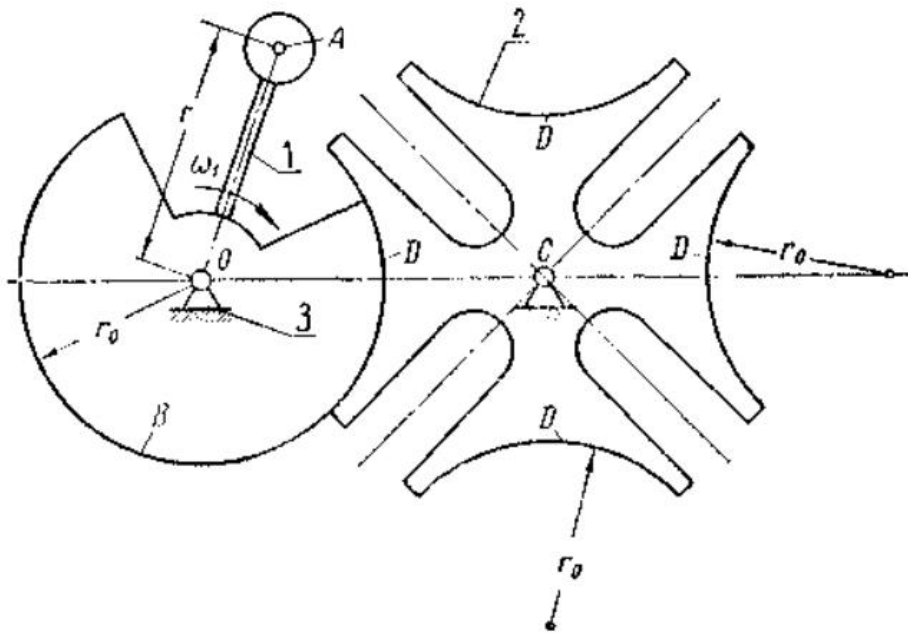


Схема 1

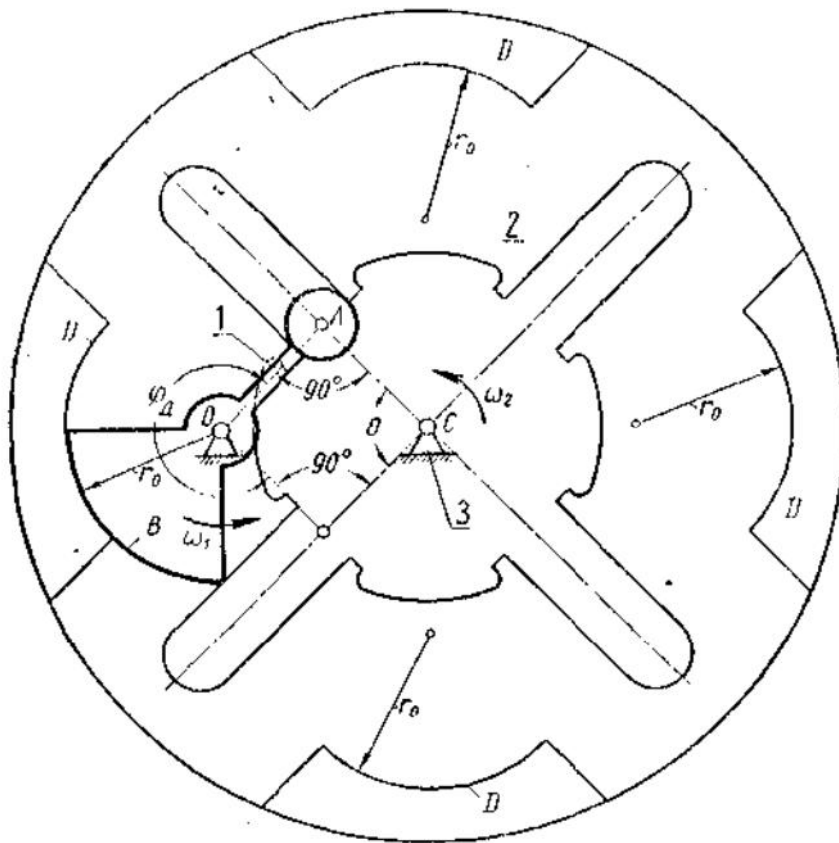


Схема 2

5.1.

	$\dot{S}l, /$		$n,$		
1	200		4	1	
2	2000		5	2	
3	1500		6	1	
4	2000		4	2	
5	1000		5	1	