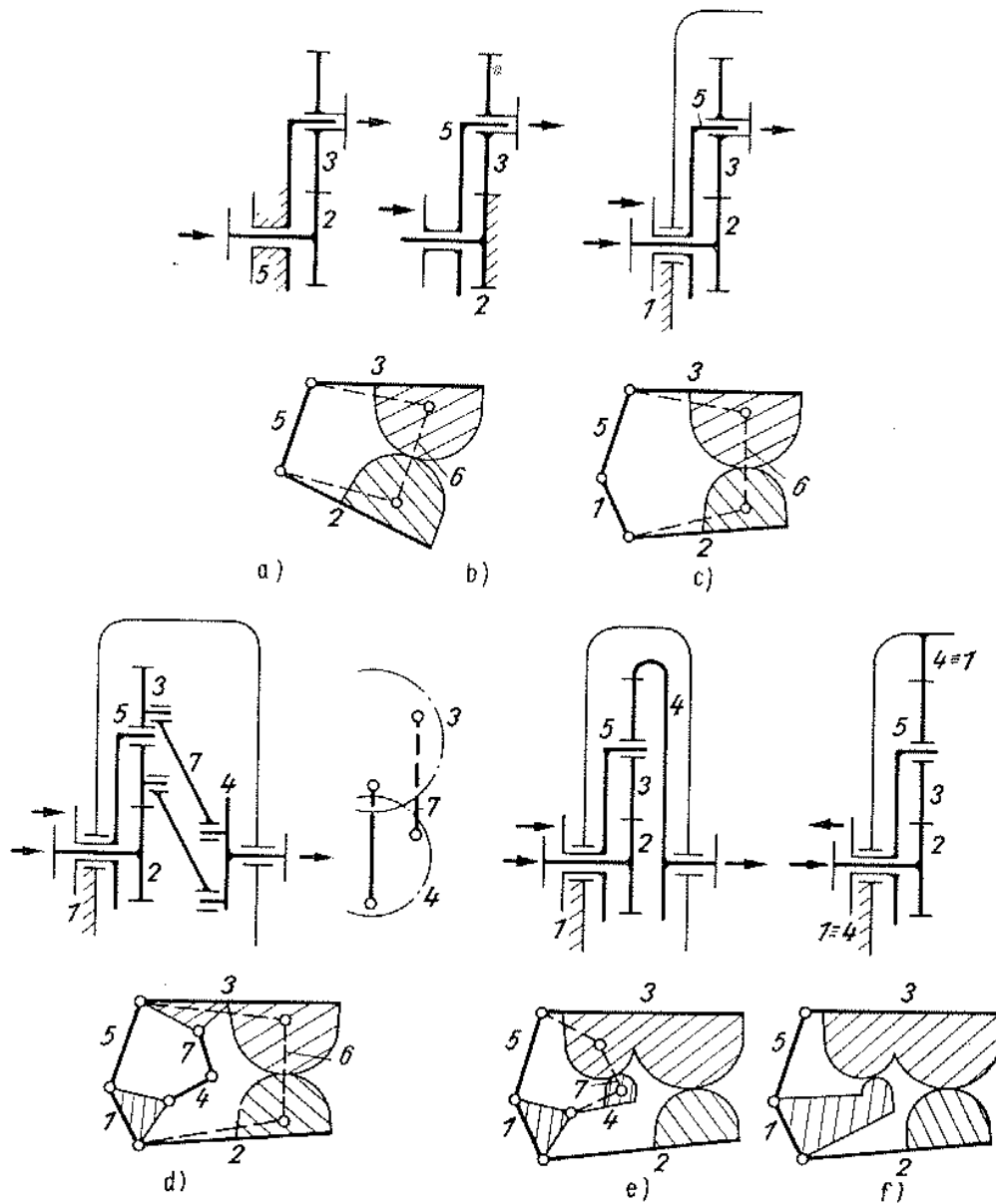


technically effective types of epicycloidal gear trains

3 --> 4 / 5 / 6 elements



development of epicycloidal trains from 3 elements

a) 3 element fixed wheel train

b) 3 element simple epicycloidal train

c) 4 element simple epicycloidal train

d) 6 element simple returning epicycloidal train, return by parallel crank gear

e) 5 element simple returning epicycloidal train

f) 4 element simple returning epicycloidal train

a), b), f):  $F=1$  c), d), e):  $F=2$

# systematics of simple returning epicycloidal trains (3-shaft gear trains)

type	gear layout	fixed ratio
		$s = \frac{n_{25}}{n_{45}} = i_{25-45}$

## spur gear epicycloidal trains

1		AA/AI	$- \frac{z_4}{z_2}$
2		AA/AA/AI	$+ \frac{z_4}{z_2}$
3		AA/AI	$- \frac{z_4 z_3}{z_3' z_2}$
4		AA/IA	$- \frac{z_4 z_3}{z_3' z_2}$
5		AA/AA	$+ \frac{z_4 z_3}{z_3' z_2}$
6		AI/IA	$+ \frac{z_4 z_3}{z_3' z_2}$
7		IA/AI	$+ \frac{z_4 z_3}{z_3' z_2}$
8		AI/AI	$+ \frac{z_4 z_3}{z_3' z_2}$