MEXANIZMLAR TURLARI, ULARNING TUZILISHI VA QO’LLANILISHI

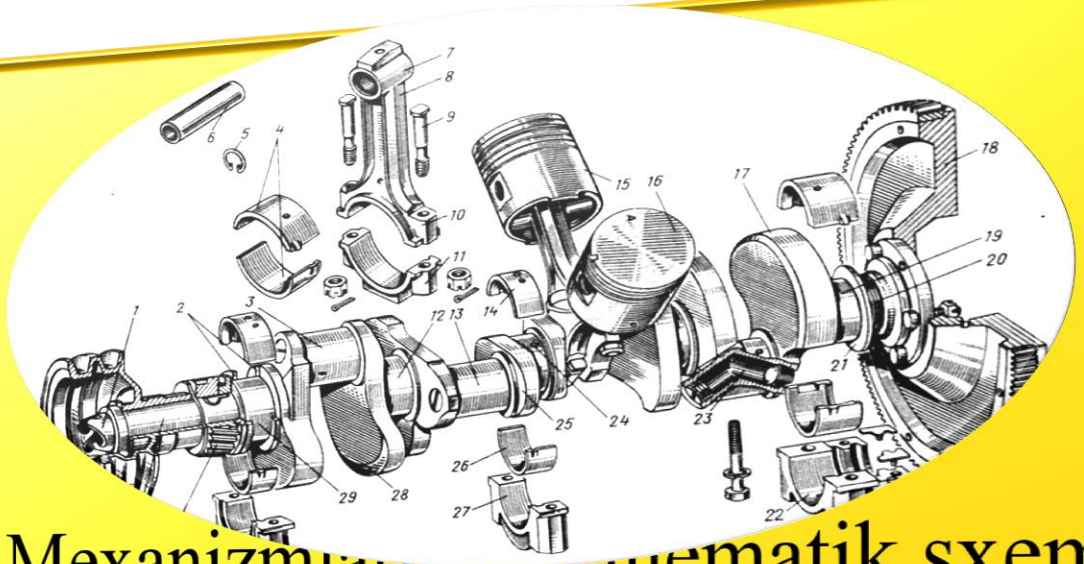
Reja:

- Fazoviy va tekis mexanizmlarning erkinlik darajalari
- Mashinalar turlari
- Mexanizmlar turlari va ularni qo’llanilishi.

Bo’g’inlar qanday shaklga ega bo’lishidan qat’iy nazar ma’lum bir sxematik shaklga keltiriladi.

Bu sxematik shakl shartli belgi deb ataladi.

Bu shartli belgilar asosida mexanizmning kinematik sxemalari chiziladi.



Mexanizmlarning kinematik sxemasini chizish uchun uzunlik masshtabi tanlab olinadi va u asosida chiziladi. Har qanday mexanizm ma'lum bir erkinlik darajasiga ega.

μ_e

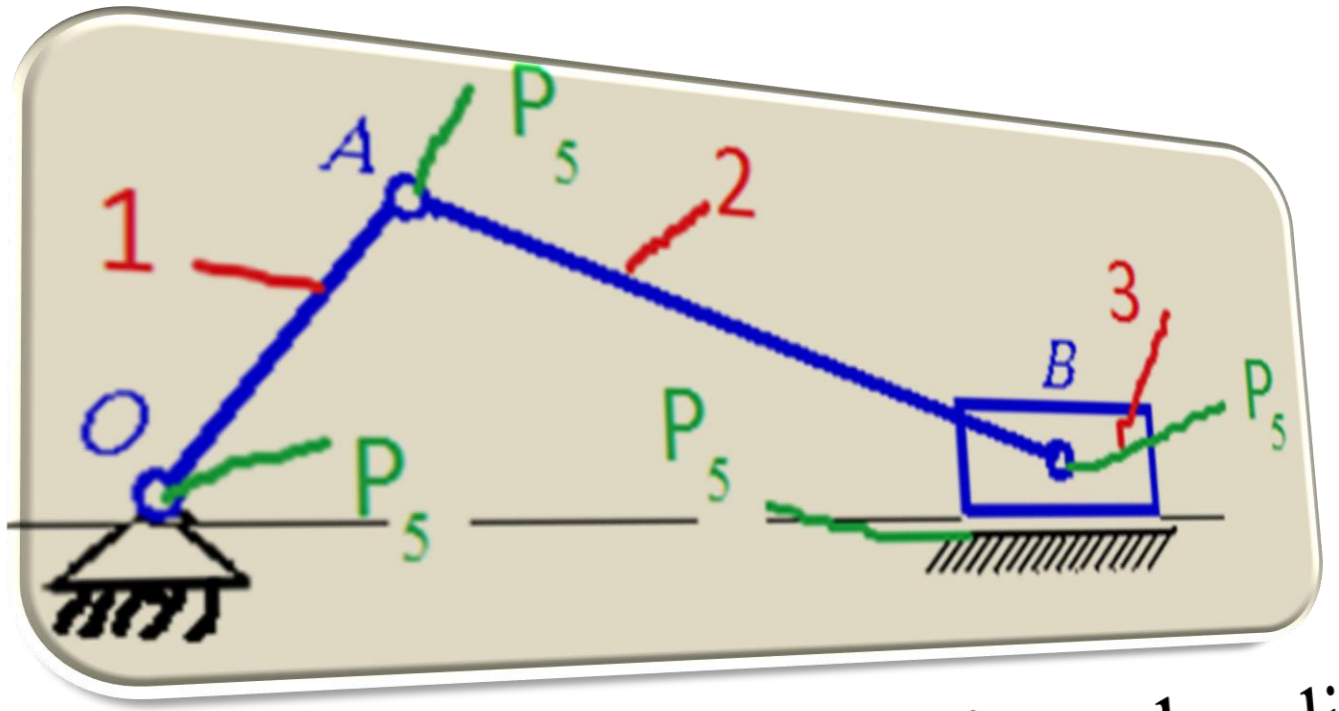
Tekis mexanizmlarning erkinlik darajasi “Chebishev” formulasi yordamida aniqlanadi.

$$W = 3n - 2P_5 - P_4$$

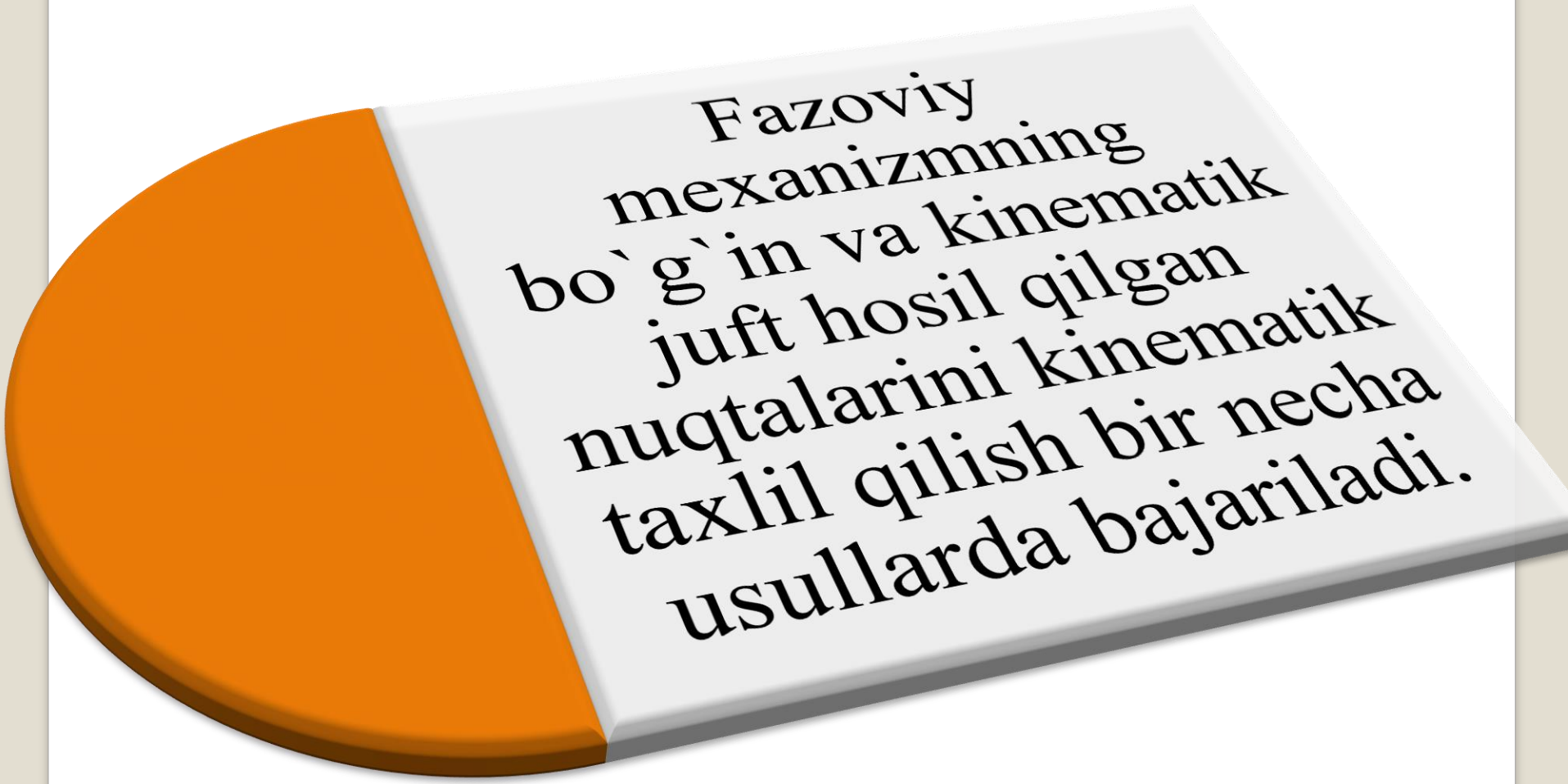
n - qo’zg’aluvchan bo’g’inlar soni.

P_5 - beshinchi sinf kinematik jutlar soni

P_4 - to’rtinchi sinf kinematik juftlar soni



Yuqorida kirivoship polzunli mexanizimning kinematik sxemasi tasvirlangan


Fazoviy
mexanizmning
bo`g`in va kinematik
juft hosil qilgan
nuqtalarini kinematik
taxlil qilish bir necha
usullarda bajariladi.

Ularning erkinlik darajasi Somov Malishev formulasi yo’rdamida aniqlanadi

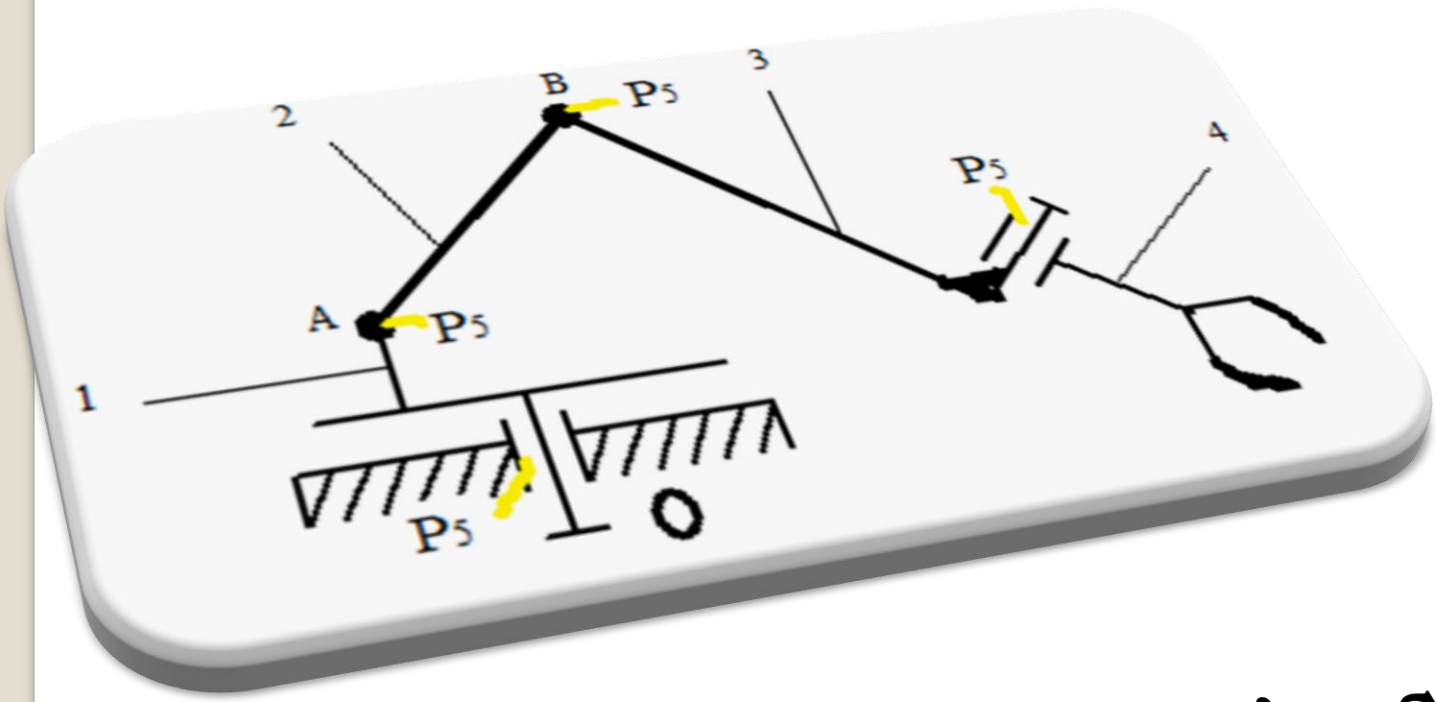
$$W = 6n - 5P_5 - 4P_4 - 3P_3 - 2P_2 - P_1$$

Bu yerda:

n – qo’zg’aluvchan bo’g’inlar soni

P_1 – I sinf kinematik juftlar soni, P_2 – II sinf kinematik juftlar soni, P_3 – III sinf kinematik juftlar soni, P_4 – IV sinf kinematik juftlar soni, P_5 – V sinf kinematik juftlar soni

Quyidagi maketda fazoviy mexanizm qo’llanilgan.



Uning strukturaviy sxemasi quyidagicha chizilgan.

Mashina deb – inson tomonidan yaratilgan, energiyani bir turdan boshqa turga o’zgartiruvchi yoki foydali ish bajarish maqsadida insonni aqliy yoki jismoniy mexnatini yengil-lashtiruvchi qurilmaga aytiladi.

Mexanizm deb – bir bo’g’inning harakatini boshqa bir bo’g’nning kerakli harakatiga aylantirib beruvchi bo’g’inlar sistemasiga aytiladi

Bo’g’in deb – mexanizm tarkibiga kiruvchi qattiq jismga aytiladi.

Sintez deb – berilgan parametrlar bo’yicha mexanizmni loyihalasga aytiladi.

Mashinalar turlari

- Texnologik mashinalar
- Transport mashinalari
- Energetik mashinalar
- Informatsion mashinalar
- Hisoblash mashinalari
- O’lchov mashinalari
- Kibernetik mashinalar

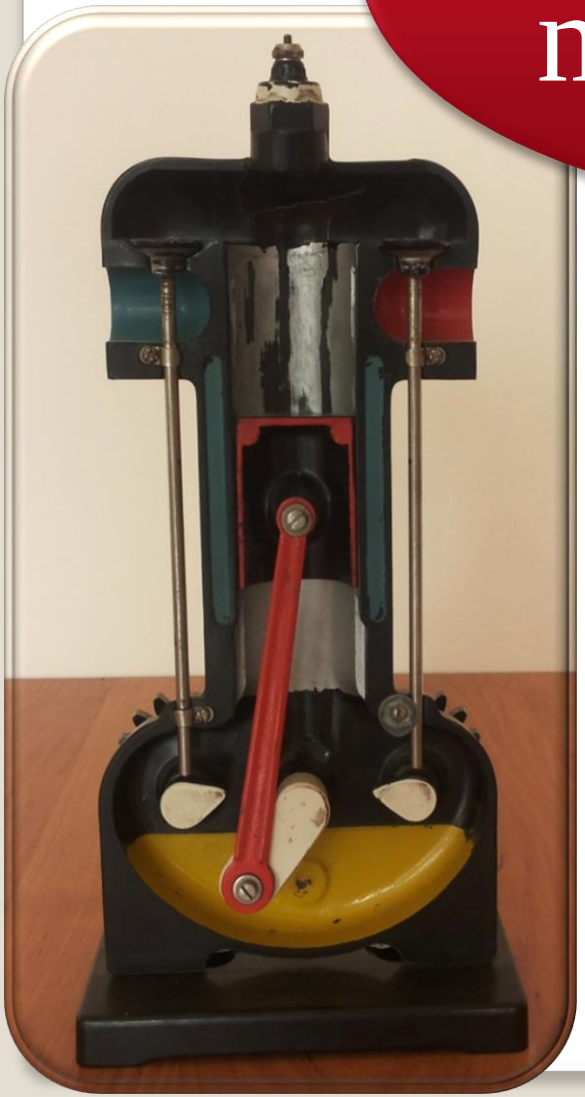
MEXANIZMLARNING ASOSIY TURLARI

- Richagli mexanizmlar
- Mushtakli mexanizmlar
- Tishli gildirakli mexanizmlar
- Vintli va pog’onali mexanizmlar
- Friktsion mexanizmlar
- Egiluvchan bo’g’inli mexanizmlar
- Elektro mexanizmlar

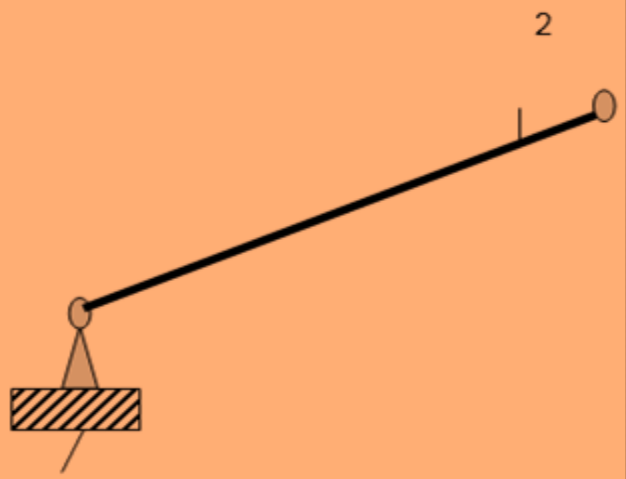
RICHAGLI MEXANIZMLAR TURLARI

- Oddiy mexanizmlar
- Murakkab mexanizmlar

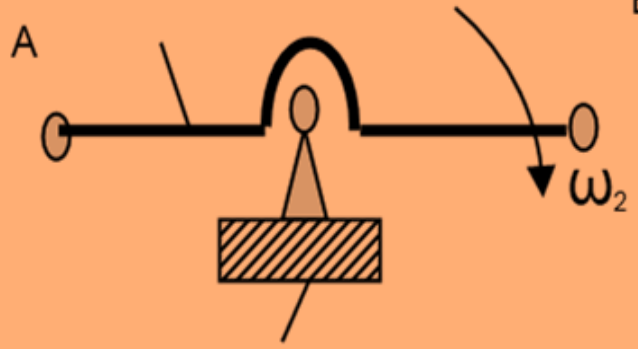
Richagli mexanizmlar



Oddiy mexanizmlar

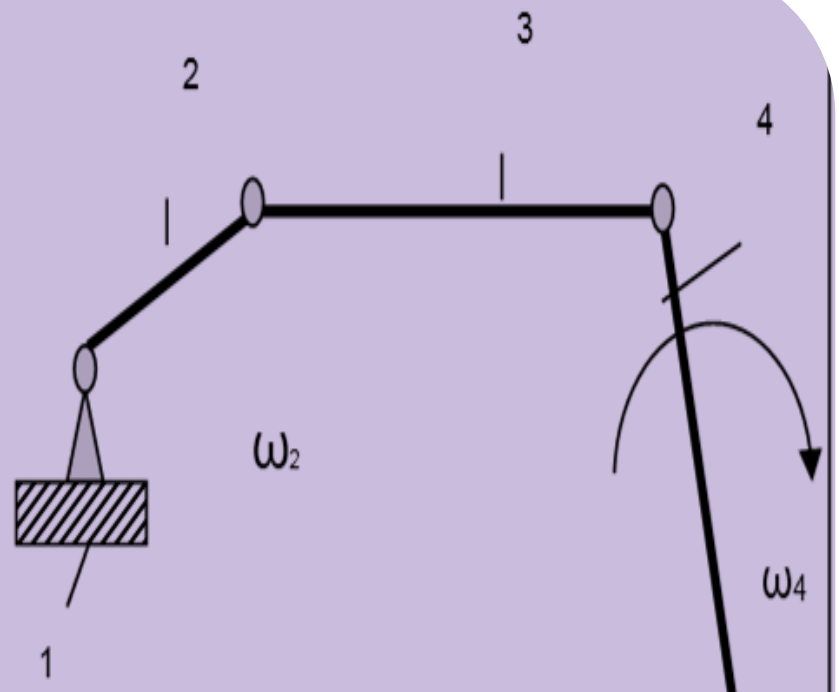


Ikki bo'g'inli mexanizm
1 – qo'zg'almas bo'g'in
2 - qo'zg'aluvchan bo'g'in



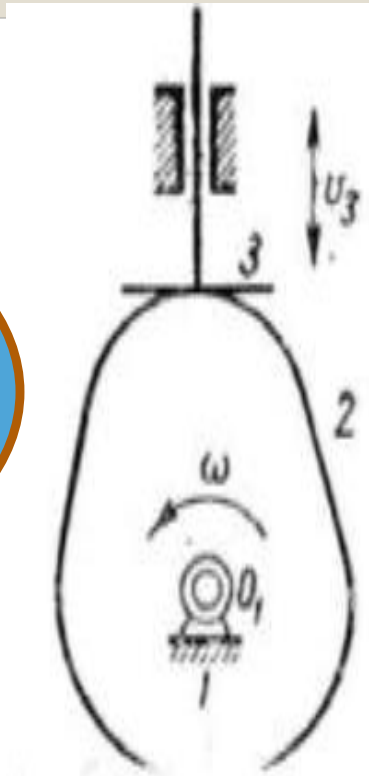
Ikki yelkadan iborat ikki bo'g'inli mexanizm.
1 – qo'zg'almas bo'g'in
2 – qo'zg'aluvchan bo'g'in

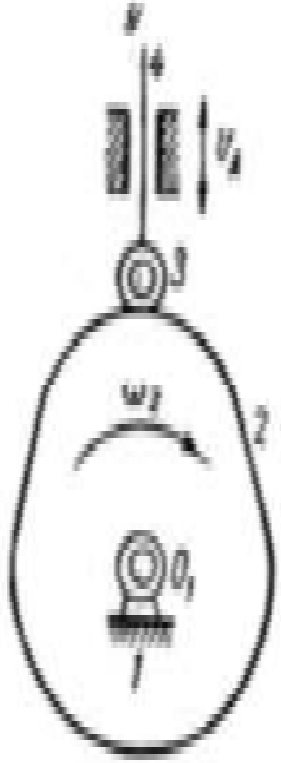
Murakkab mexanizm

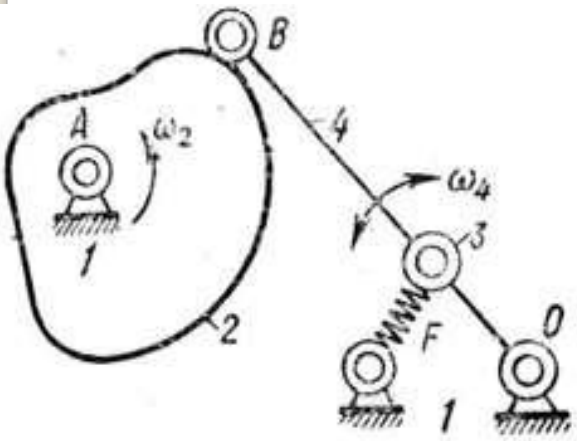


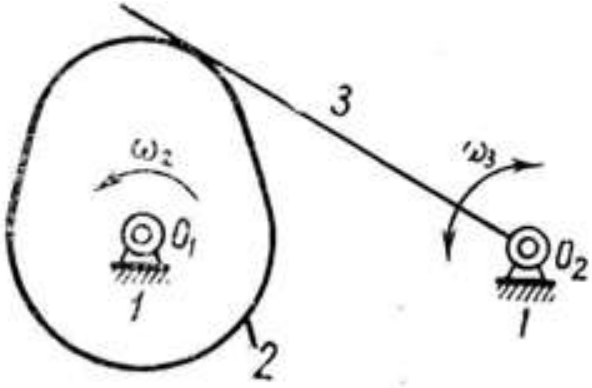
To’rt bo’g’in krivoship – koromisloli mexanizm.
1 – qo’zg’almas bo’g’in
2 – tirsakli val (krivoship)
3 – shatun, 4 - koromislo

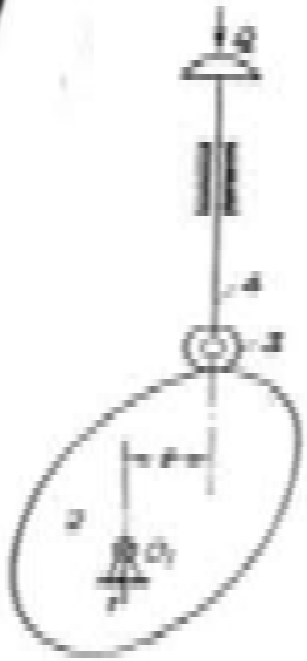
Mushtakli mexanizmlar



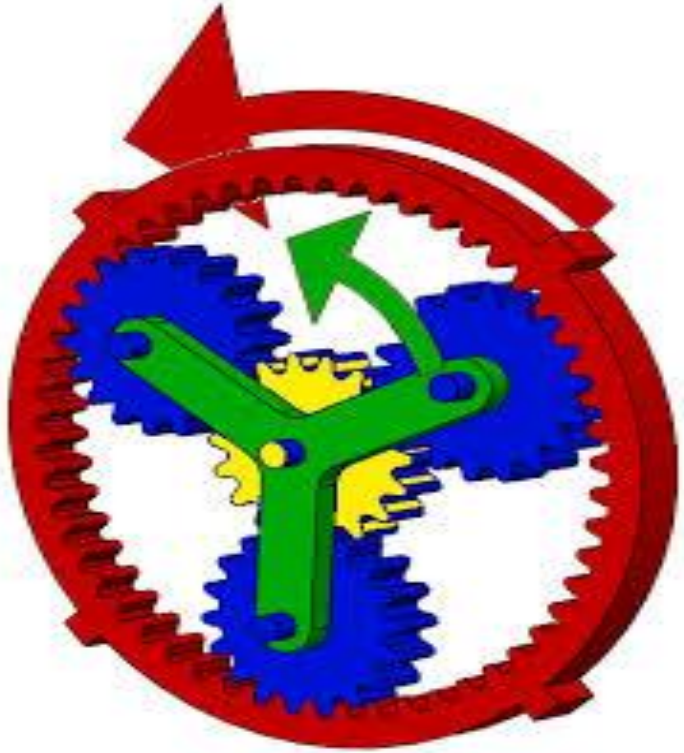




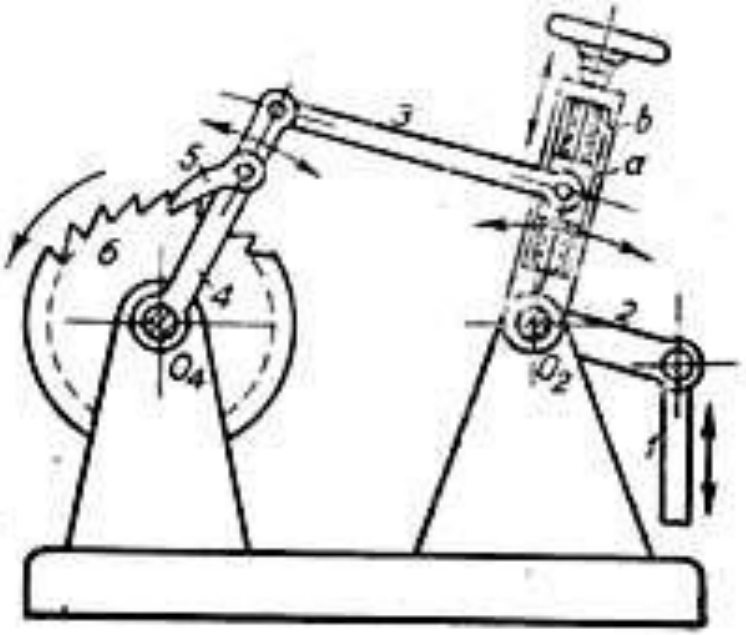


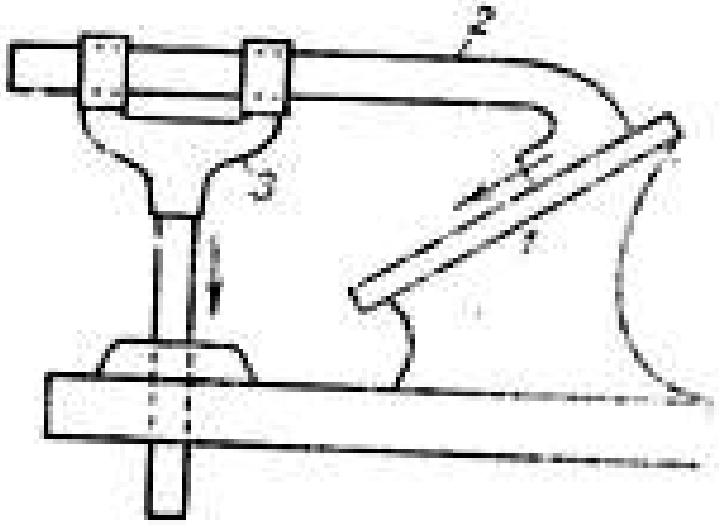


Tishli g’ildirakli mexanizmlar

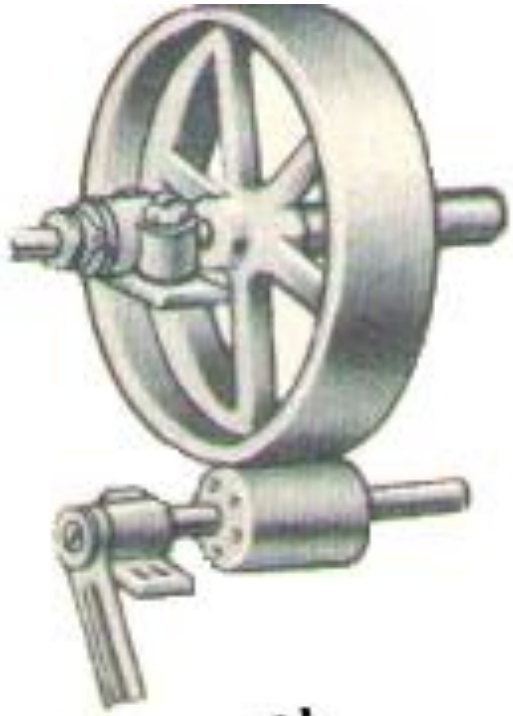


Vintli va ponali mexanizmlar

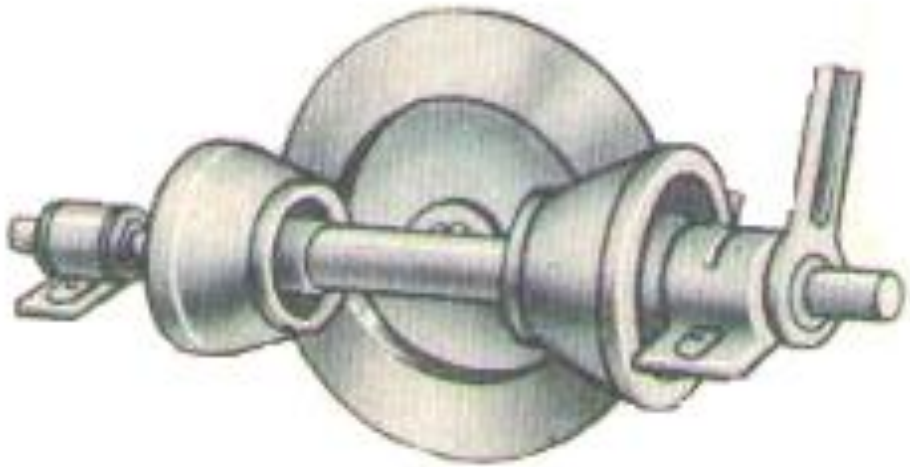




Friktsion mexanizmlar

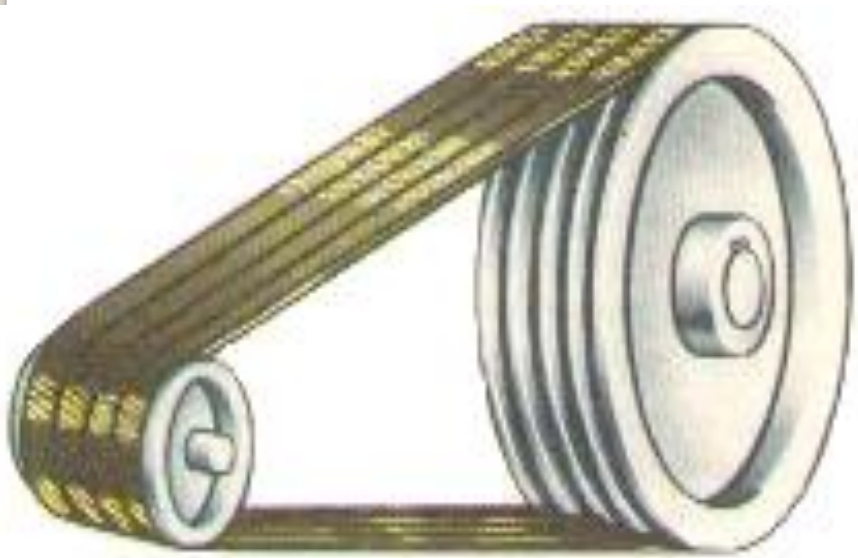


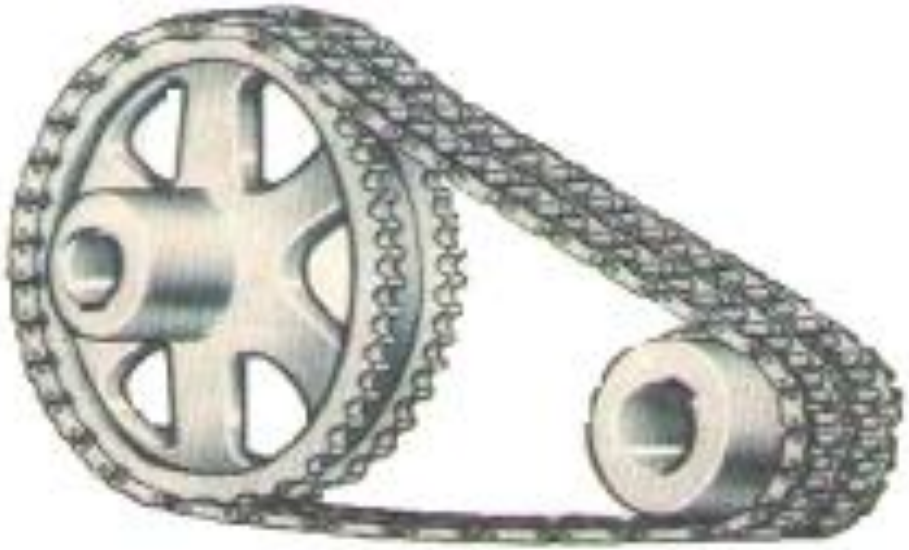
a)



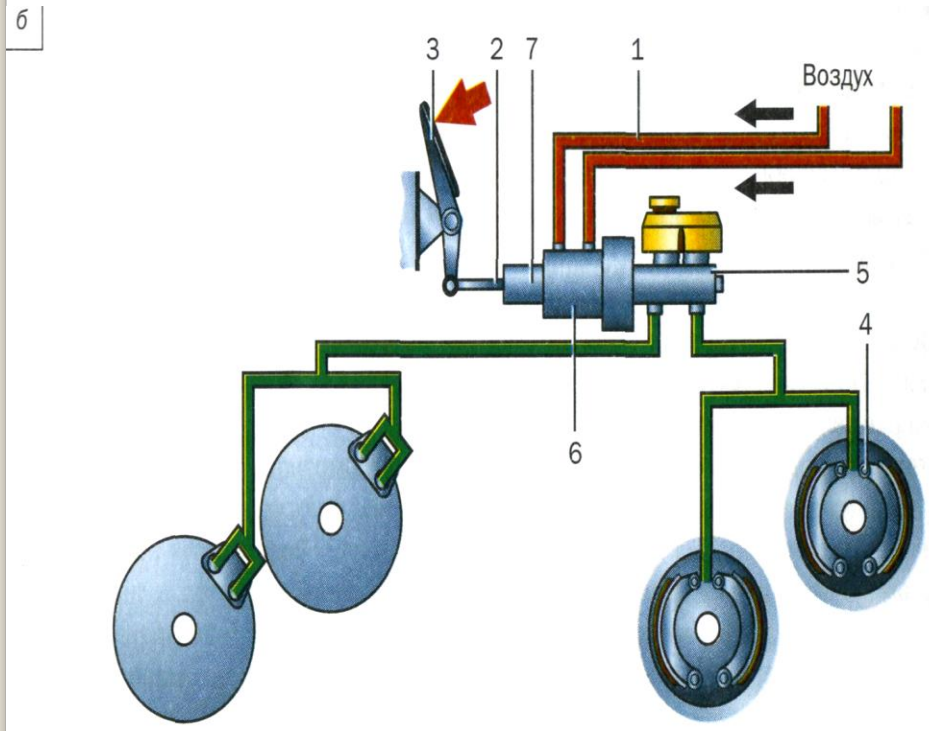
b)

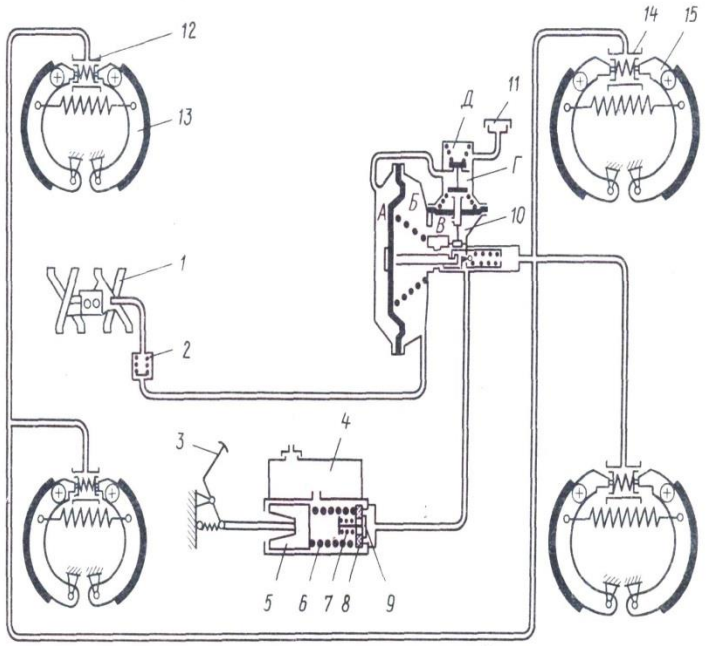
Egiluvchan bo’g’inli mexanizmlar



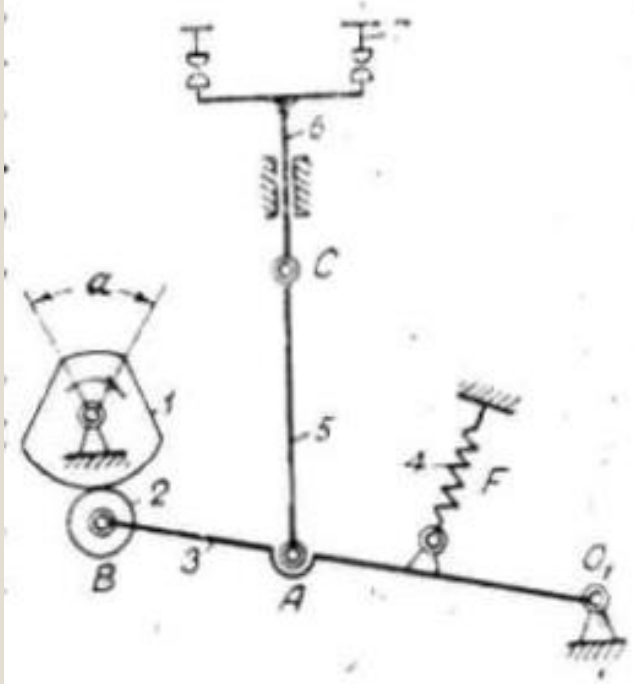


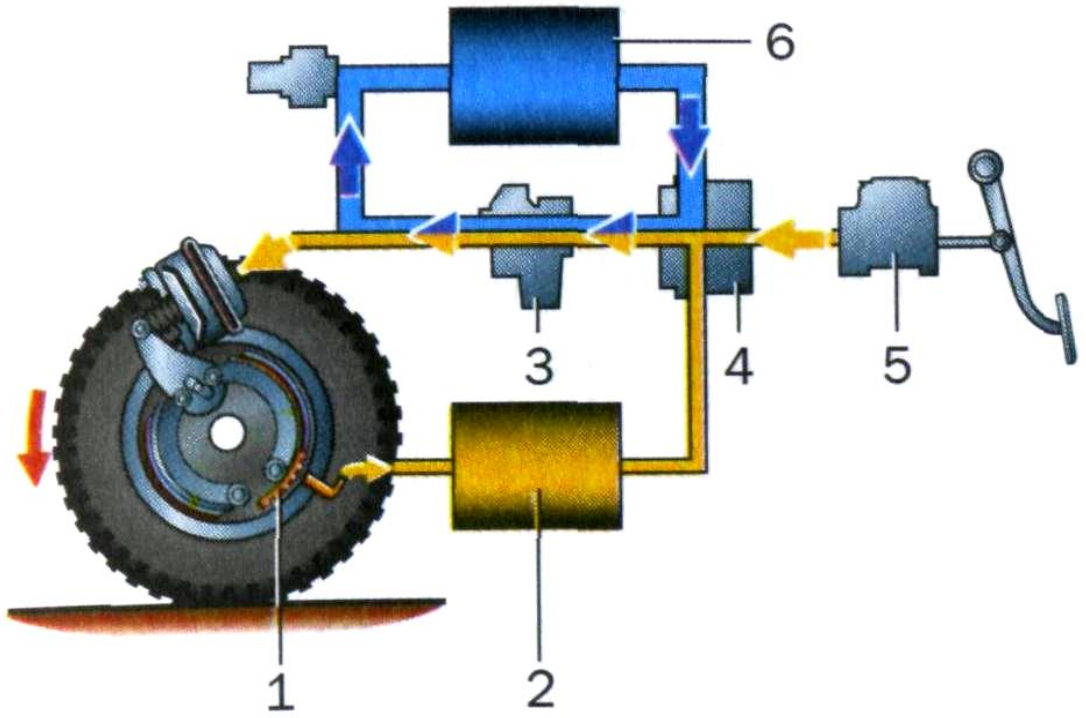
Gidravlik va pnevmatik mexanizmlar





Elektrik mexanizmlar





E’tiboringiz uchun raxmat