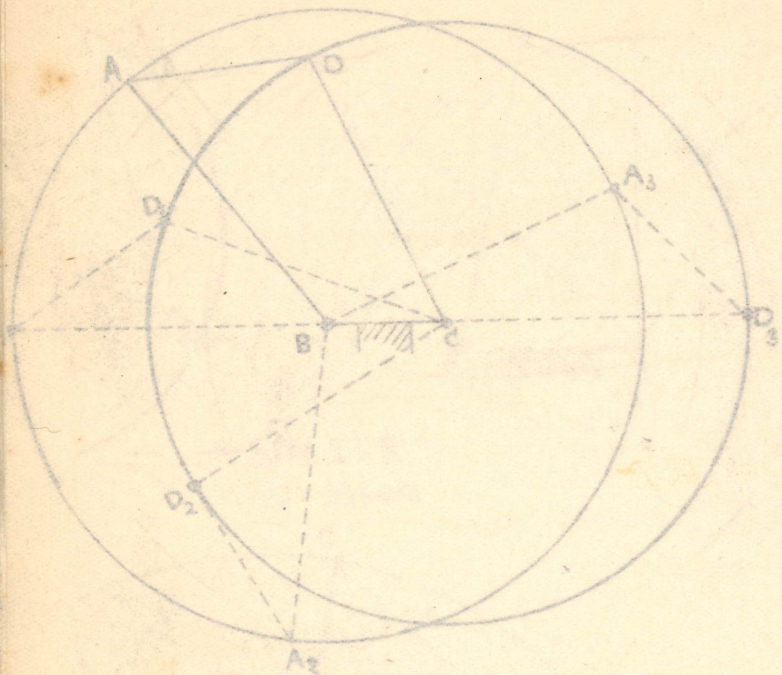
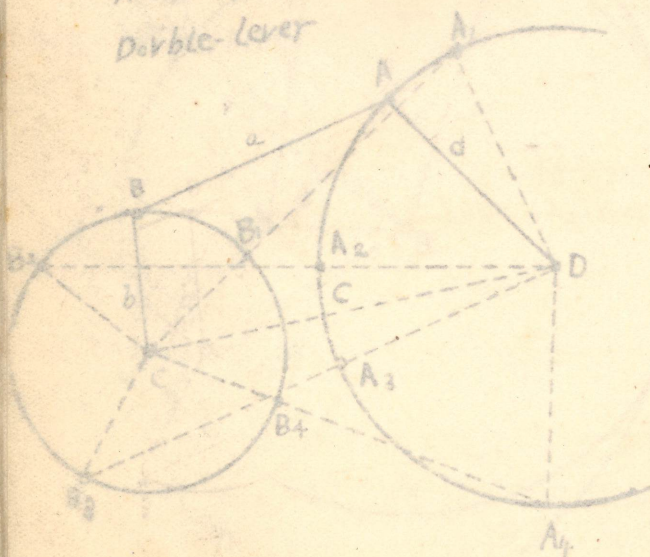


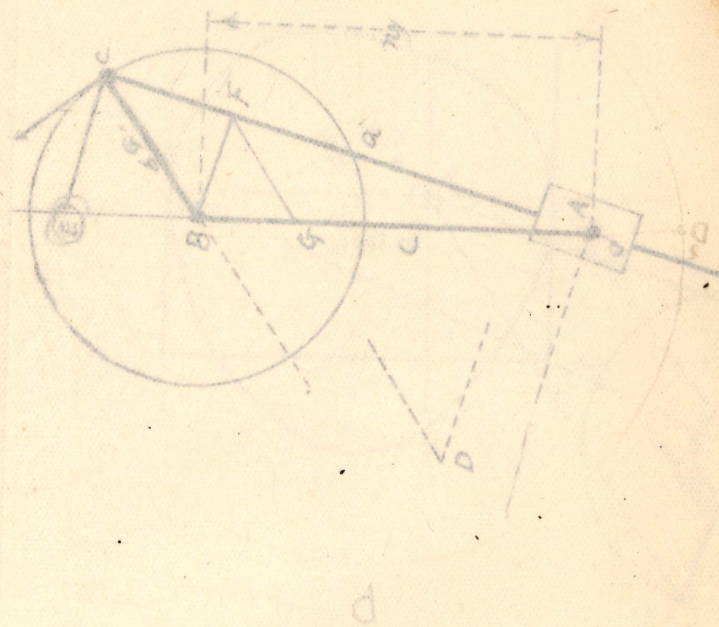
第12圖 Double Crank



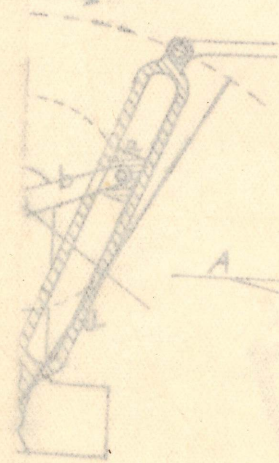
第12圖 Double-Lever



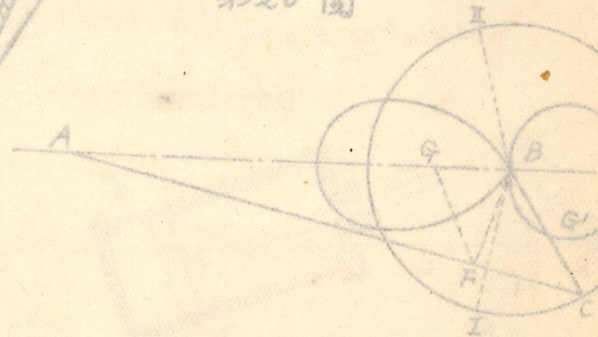
第19圖



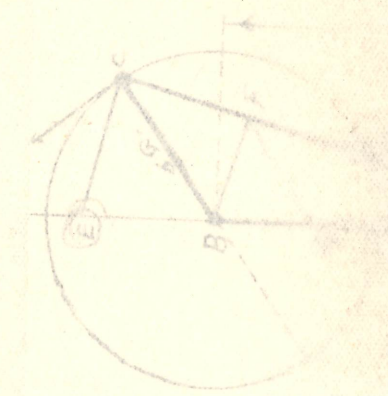
圖三 of Shaping Machines



第20圖







圖三  
of Shaping Machines

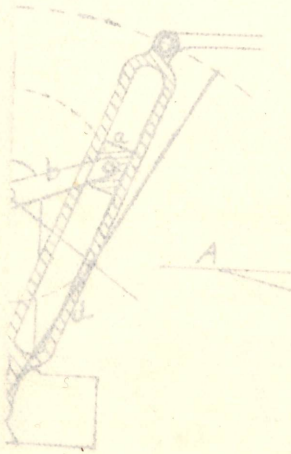


圖13, 一 Double Crank

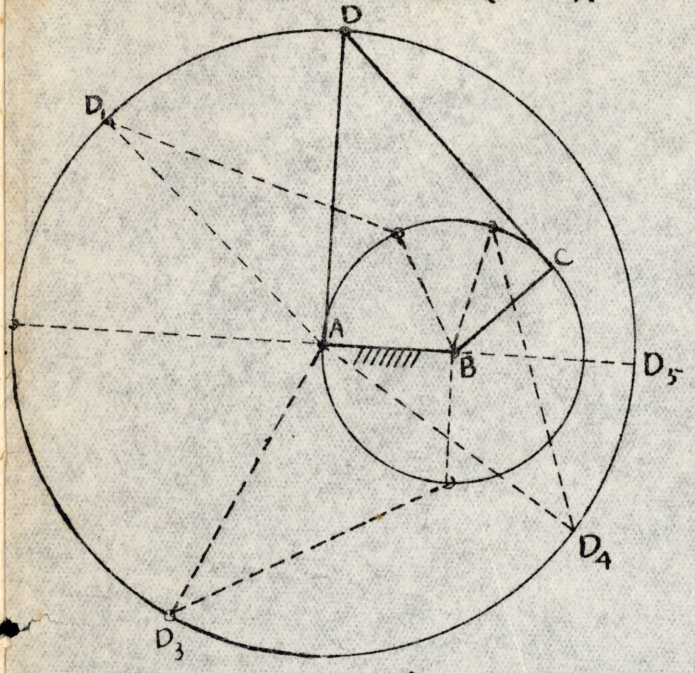


圖13, 二 Lever Crank

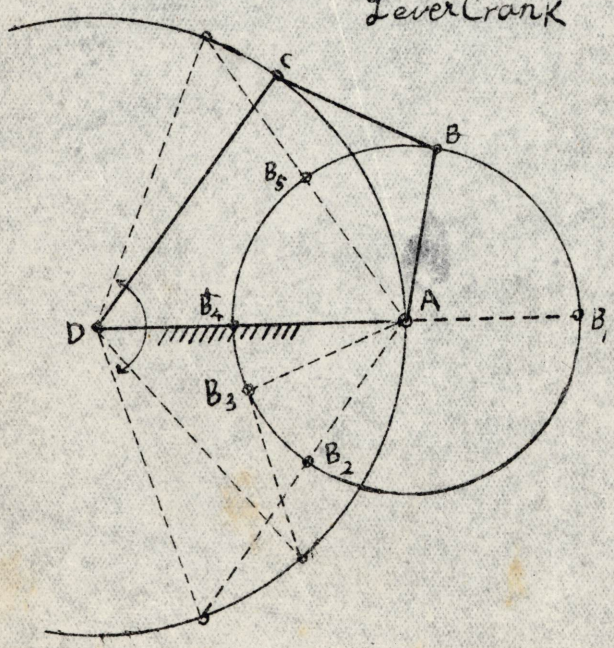


圖14

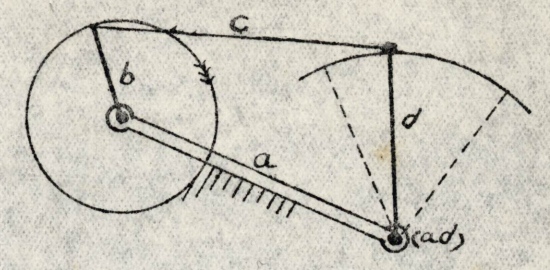


圖15

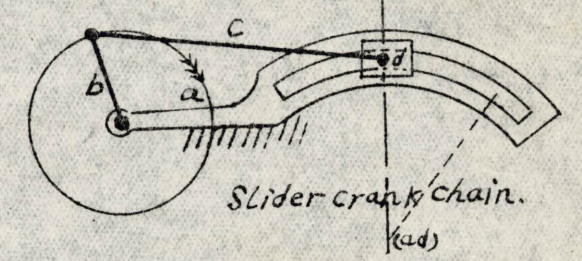


圖16

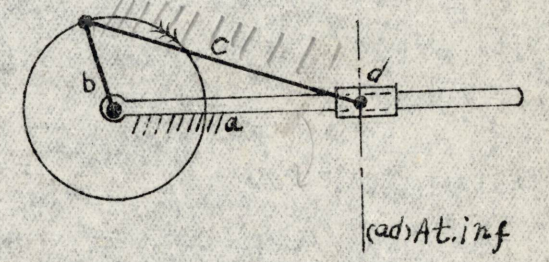
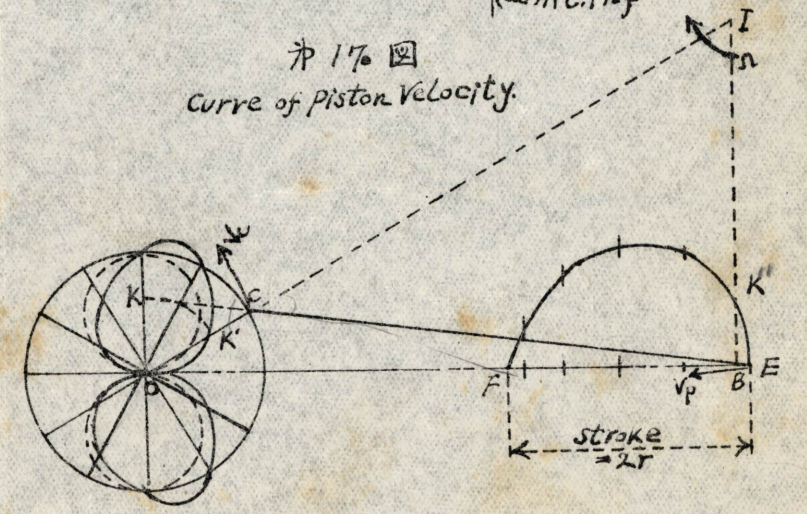


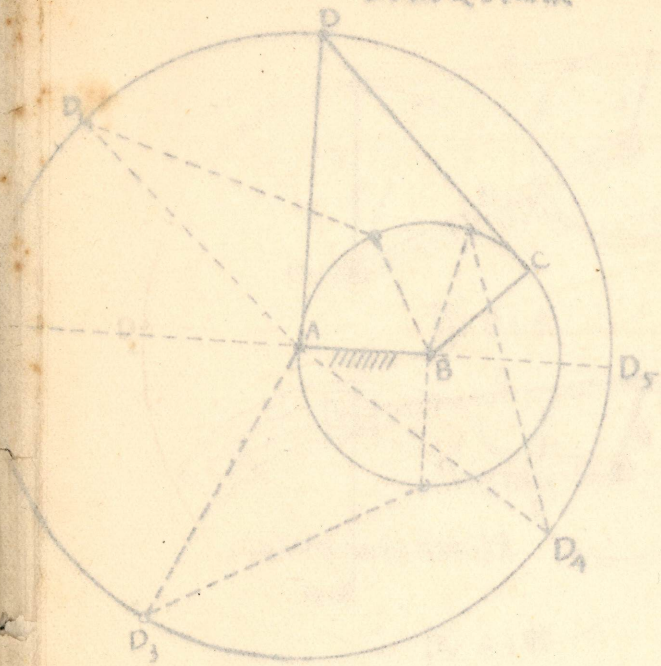
圖17  
Curve of piston Velocity





第13圖一

Double Crank



第13圖二

Lever Crank

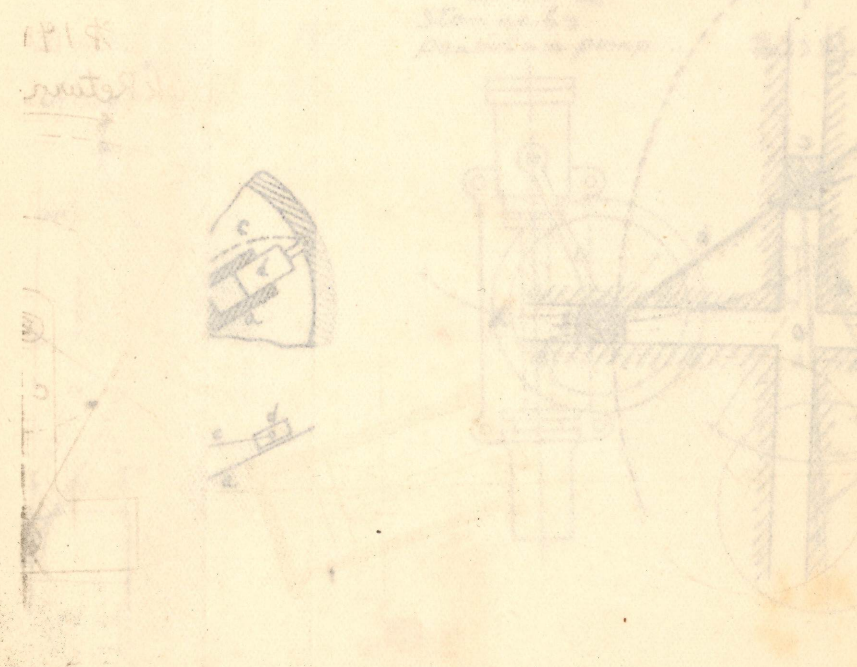
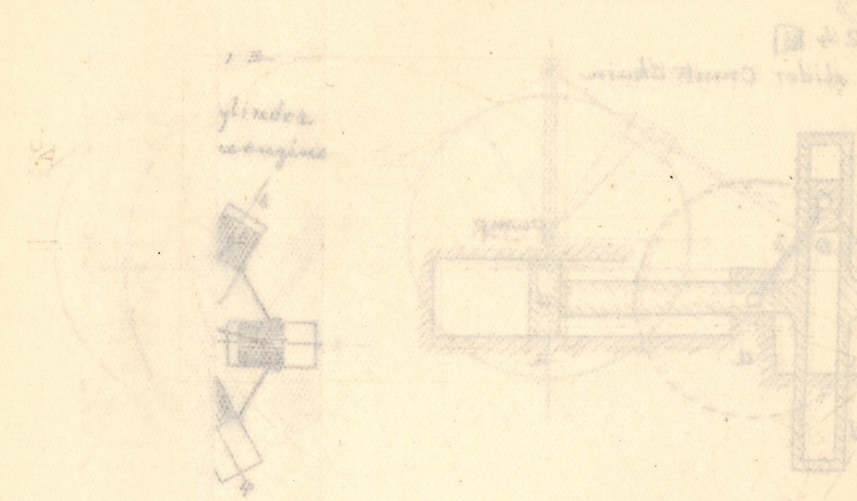
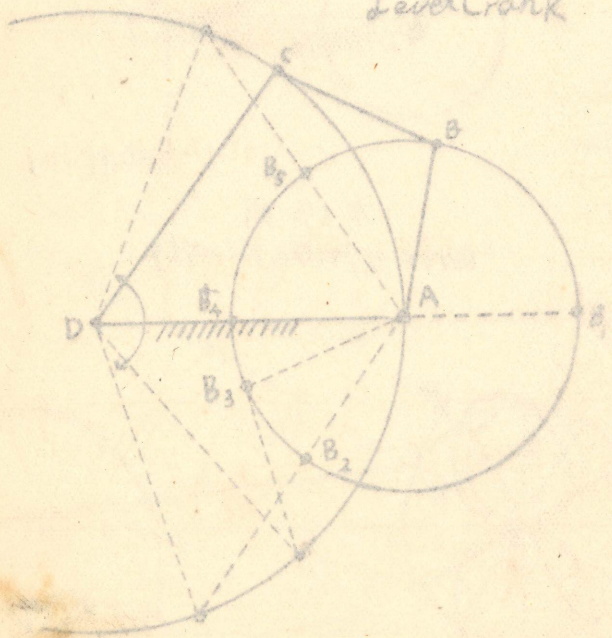
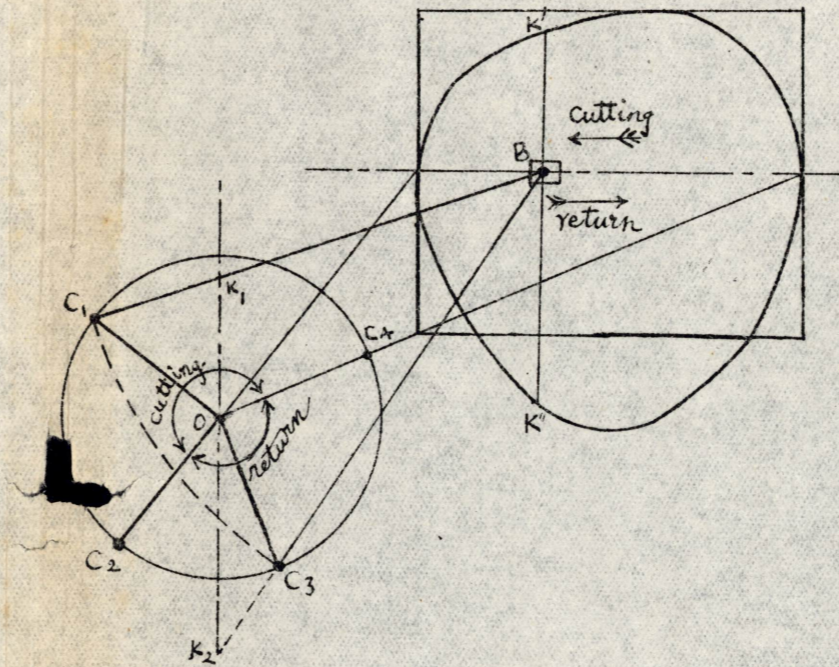


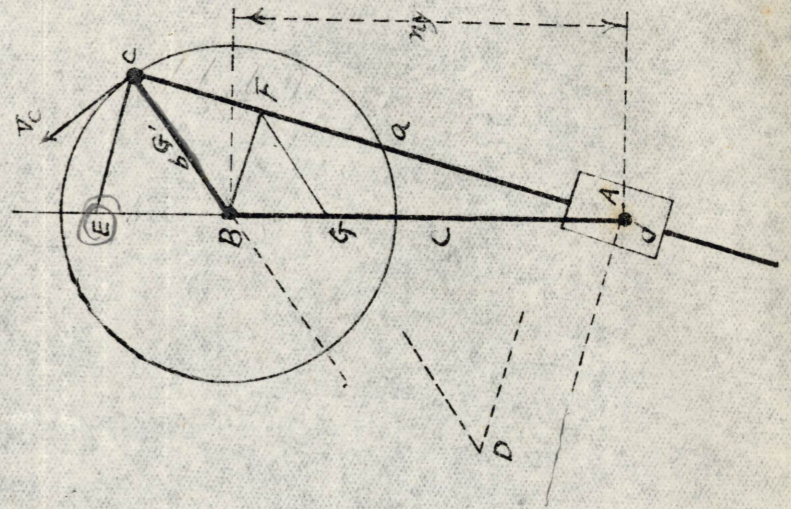
圖 13



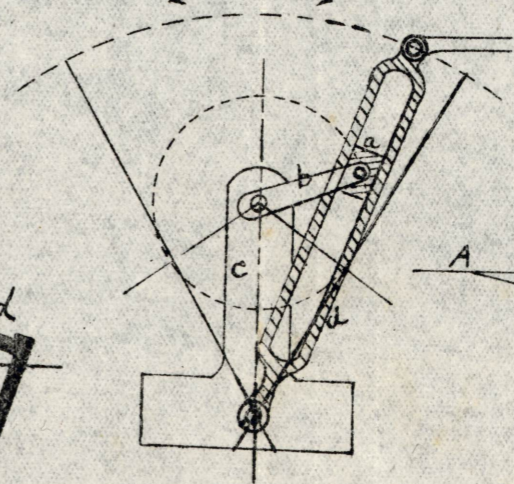
第18图  
Quick return



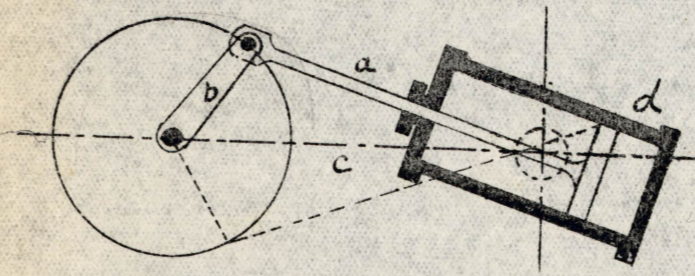
第19图, 一



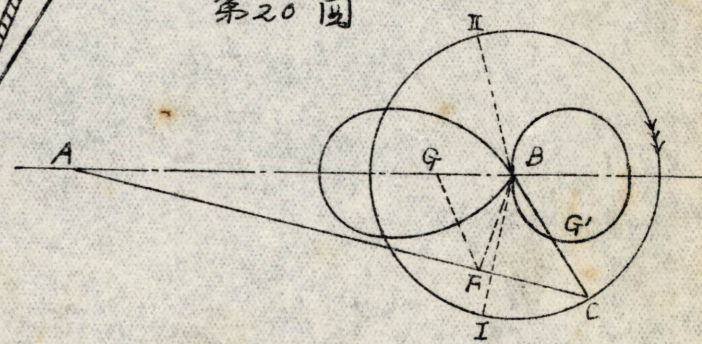
第19图, 三  
Quick Return of Shaping Machines



第19图, 二  
Oscillating Engine



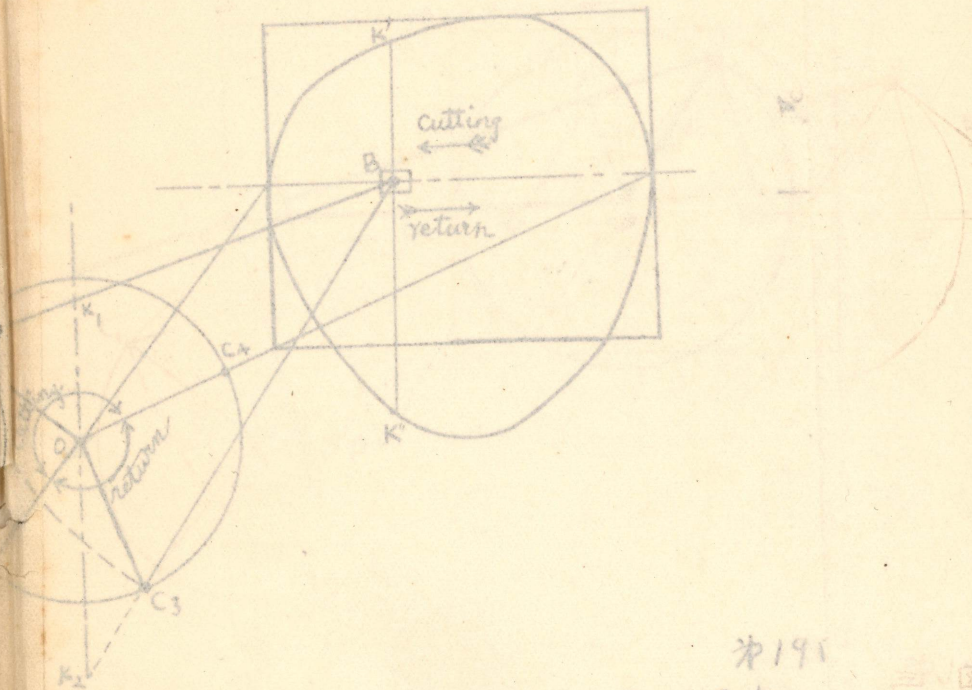
第20图



运动学

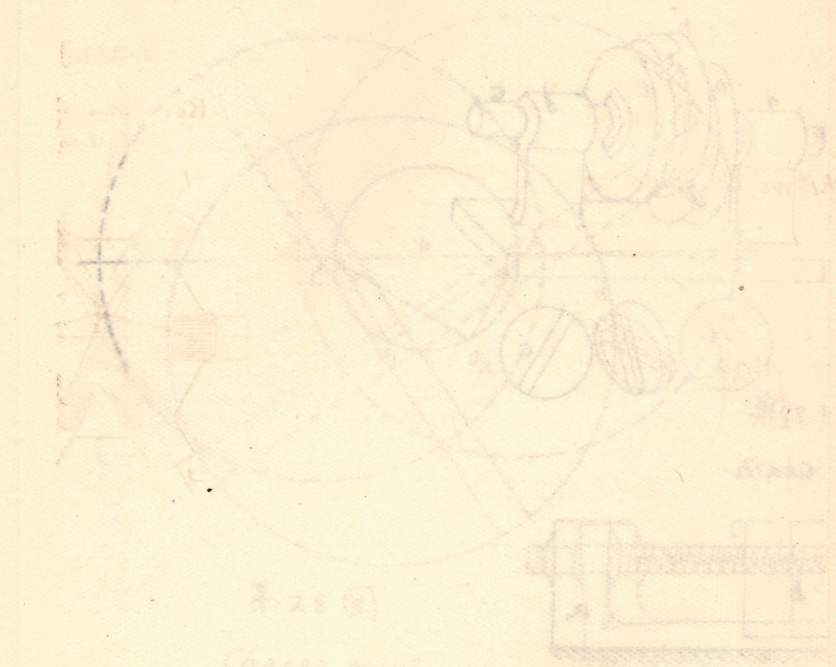
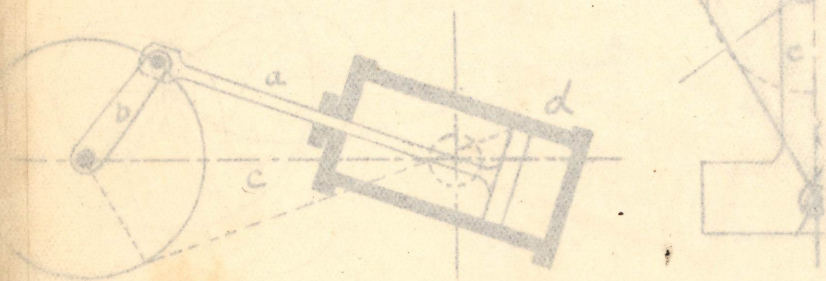


第18圖  
Quick return



第19圖  
Quick Return

第19圖，二  
Oscillating Engine



第25圖  
Change point

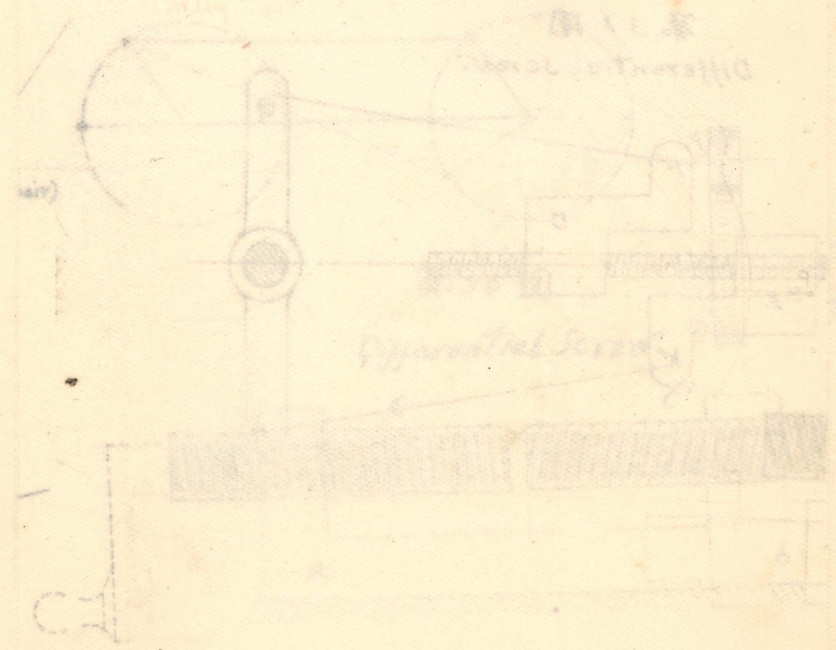
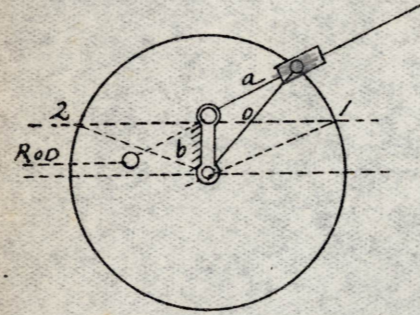


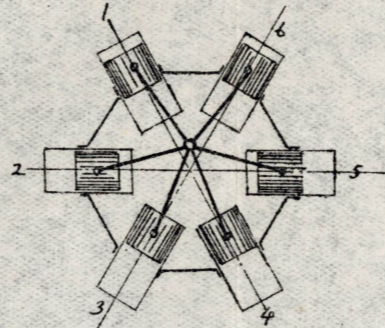
圖  
動  
機



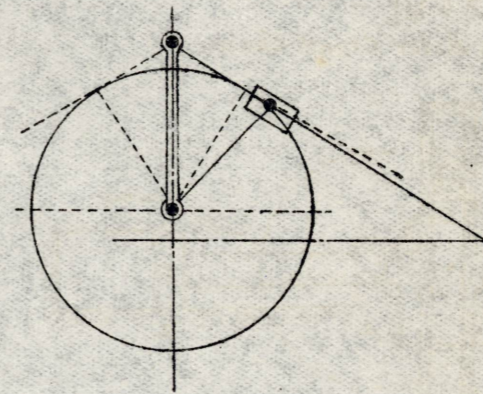
第21圖, 一  
Whitworth quick return mechanism



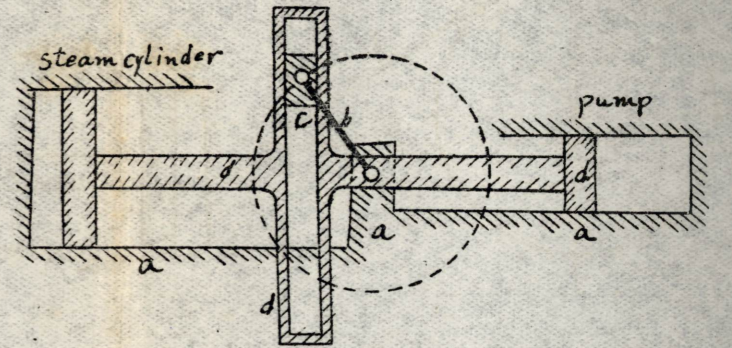
第21圖, 三  
Revolving cylinder  
air plane engine



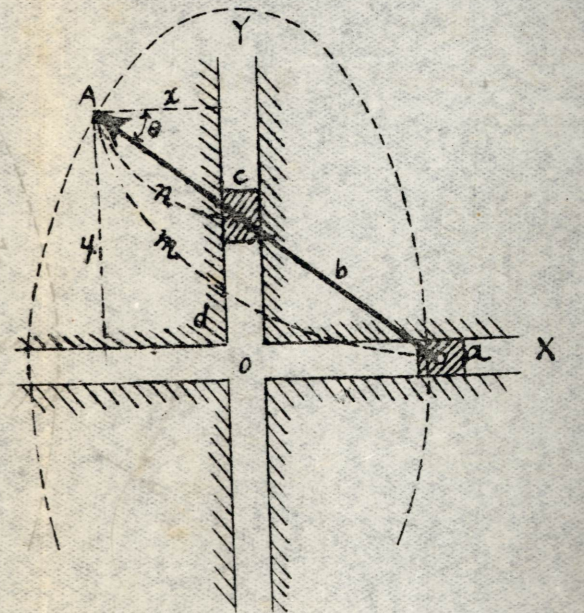
第22圖



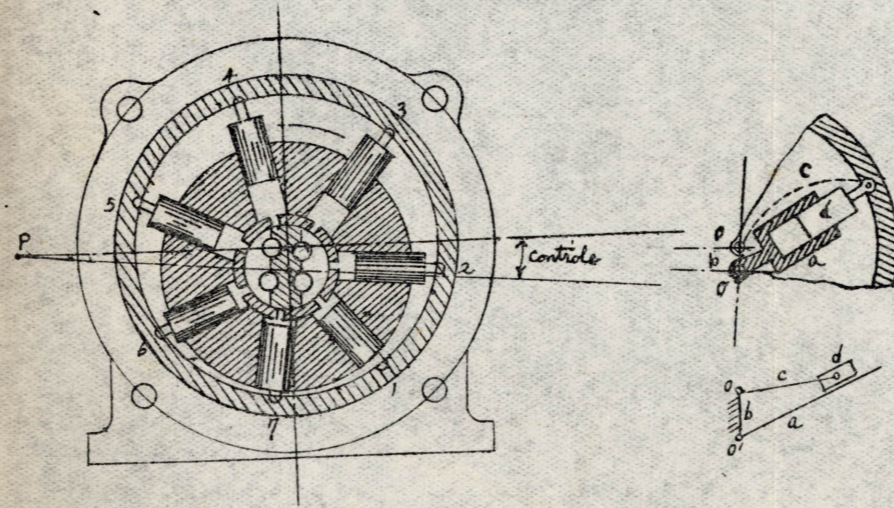
第24圖  
Double slider Crank chain



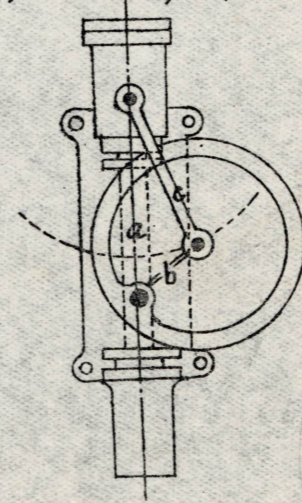
第25圖  
Elliptic trammel



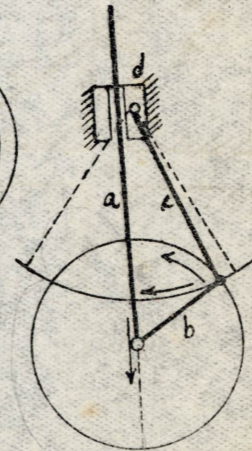
第21圖, 二  
Walslow pump



第23圖, 一  
Stannah's  
pendulum pump



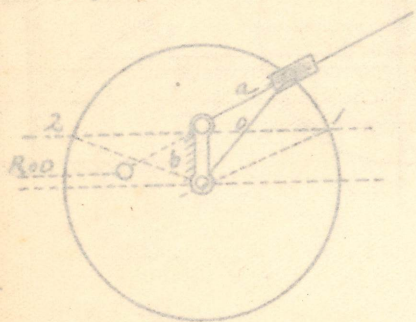
第23圖, 二





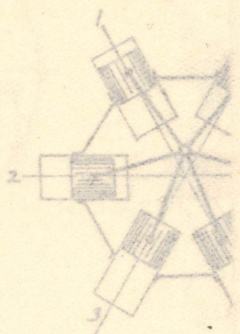
第21圖, 一

Worth quick return mechanism

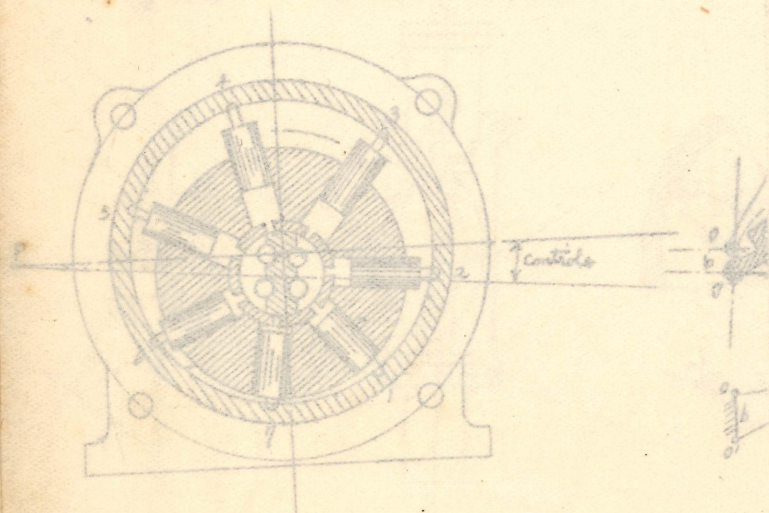


第21圖

Revolving C  
air plan



第21圖, =  
Malshon pump

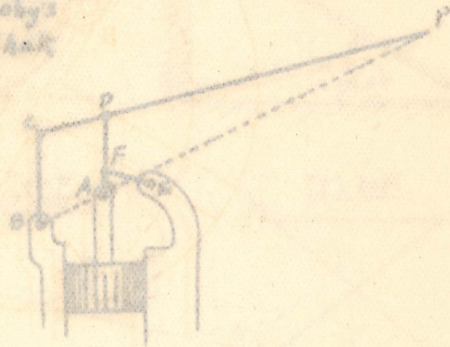


第32圖  
習問題, 附圖

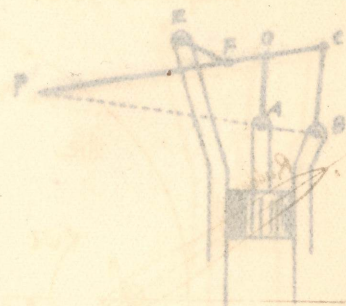
Prob 4

Mechanism of Indicator

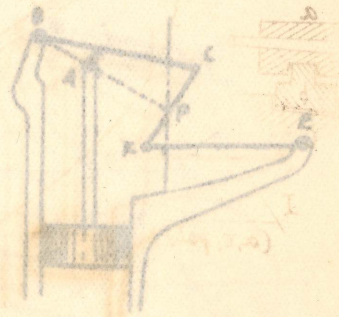
(1) Crooby's  
Machak



(2) Wada's  
Thompson's



(3) Richard's



圖

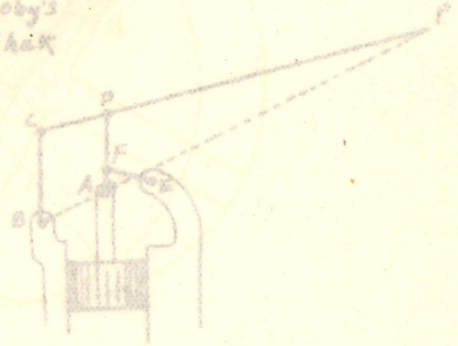
運動學



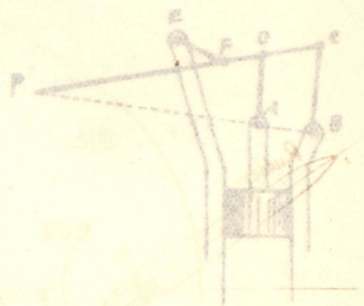
2 图  
问题, 附图

Prob 4  
Mechanism of Indicator

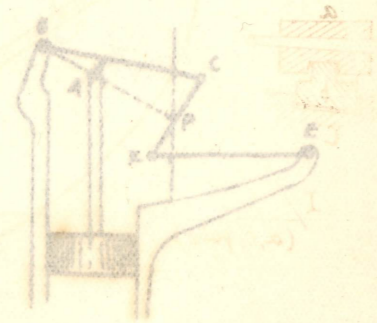
(1) Croby's  
Machin



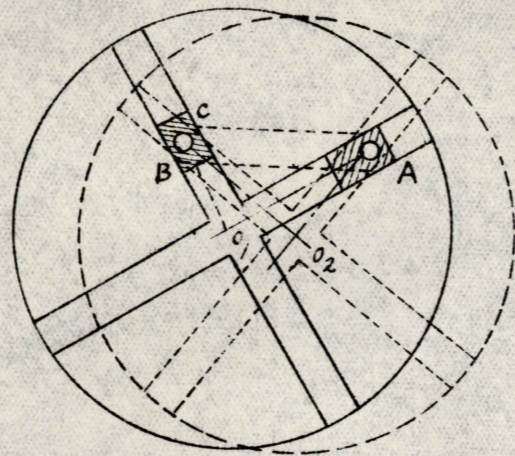
(2) Wada's  
Thompson's



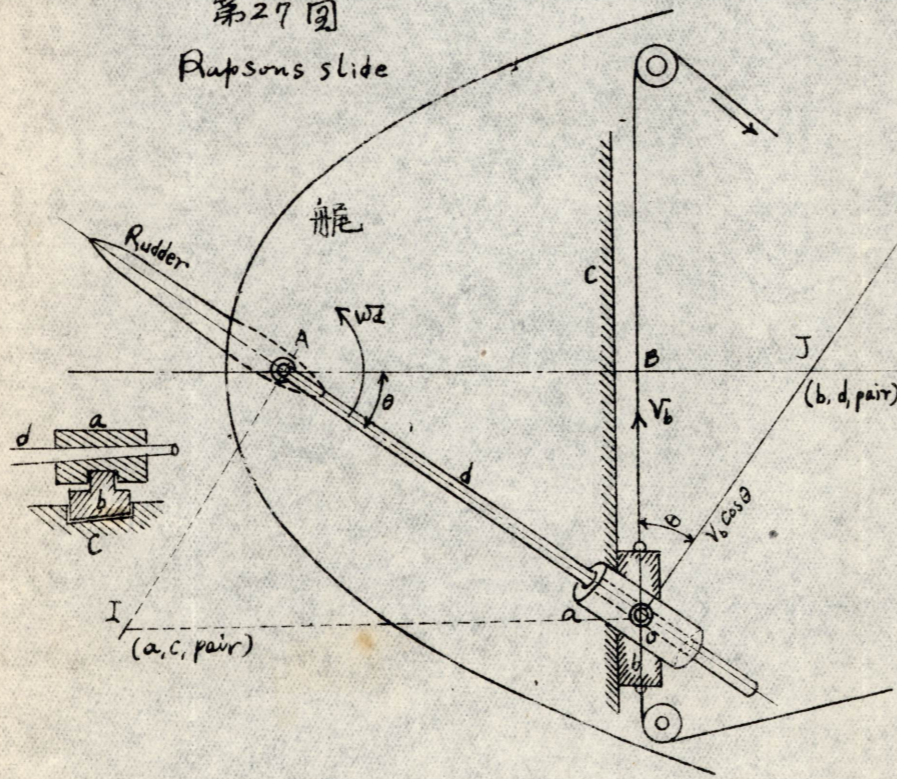
(3) Richard's



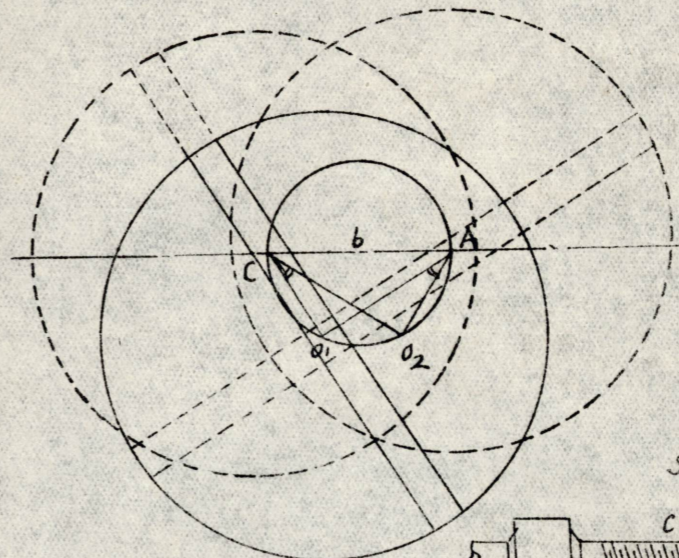
第26图, 一  
oldham's Coupling.



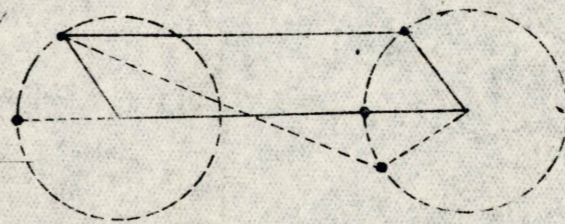
第27图  
Rapson's slide



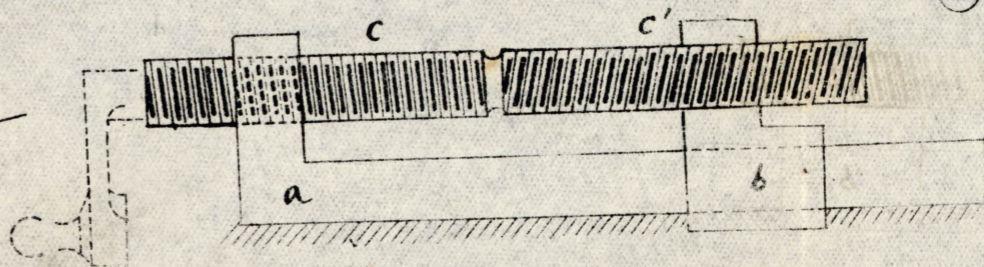
第26图, 二  
owham's Coupling



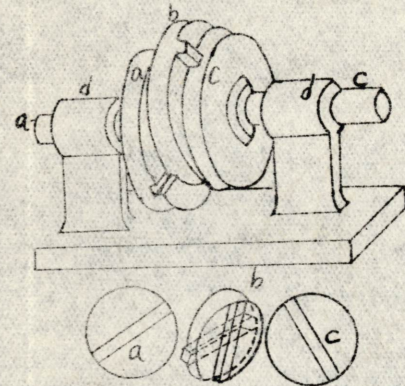
第28图  
Change point.



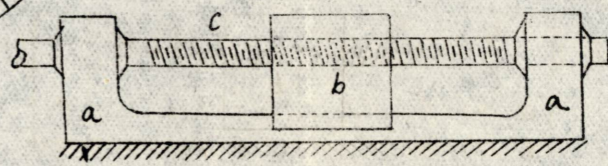
第30图  
Differential Screw.



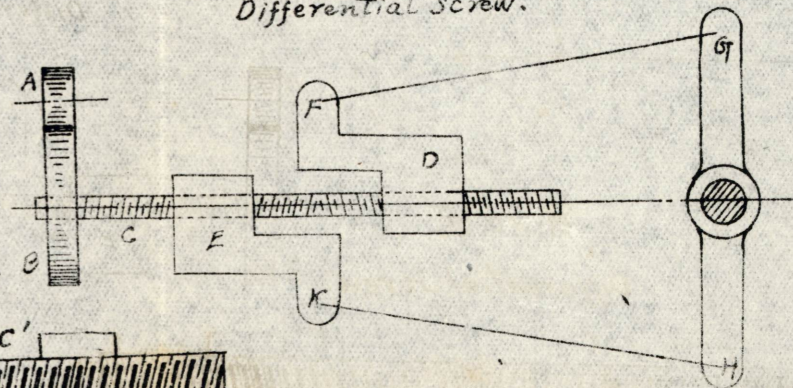
第26图, 三  
oldham's Coupling



第29图  
Screw Chain

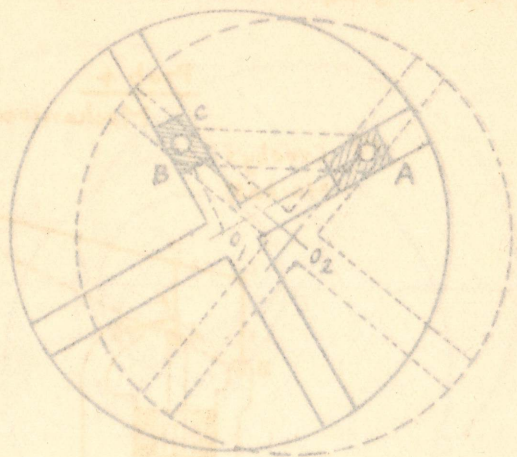


第31图  
Differential screw.

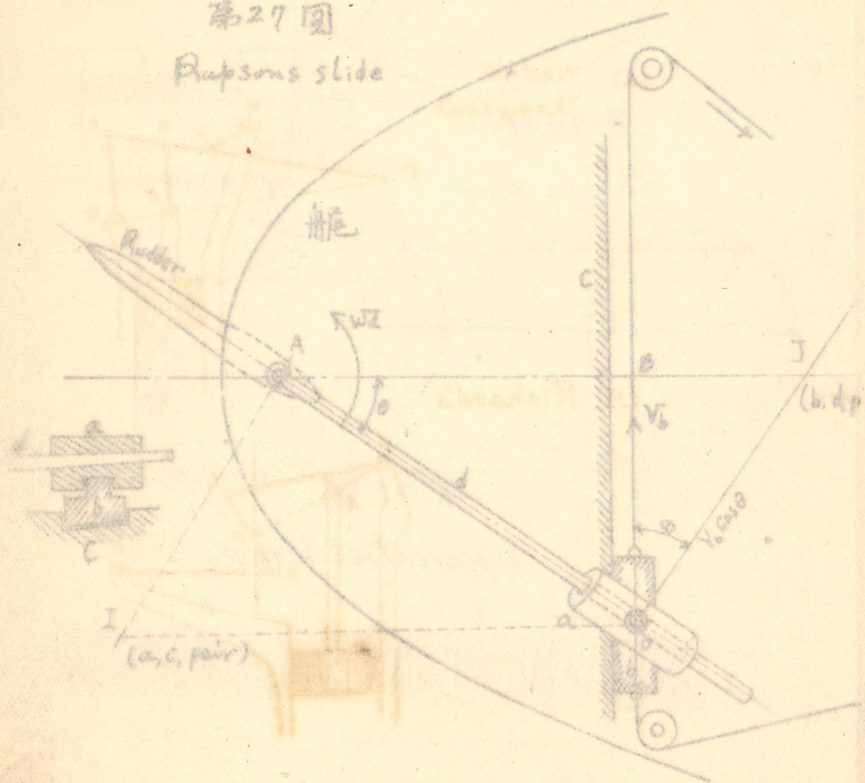




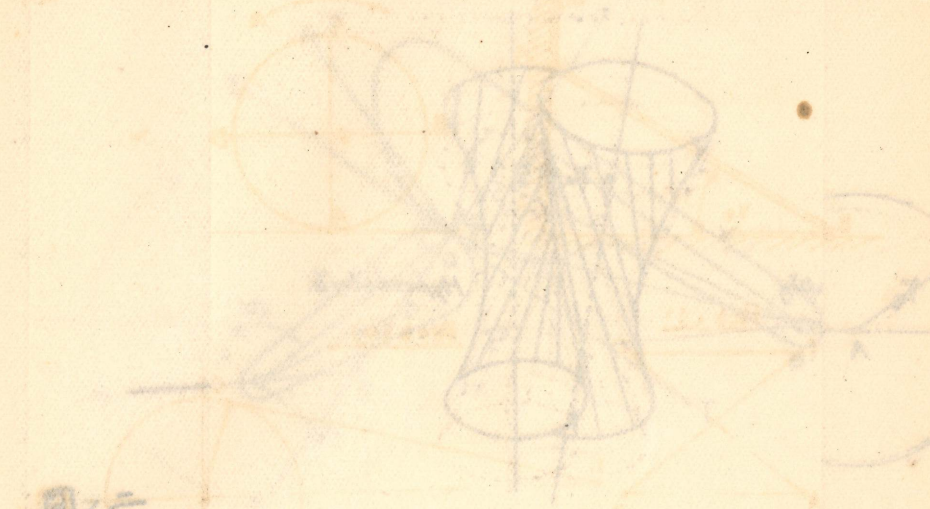
第26圖, —  
oldham's Coupling



第27圖  
Rapson's slide



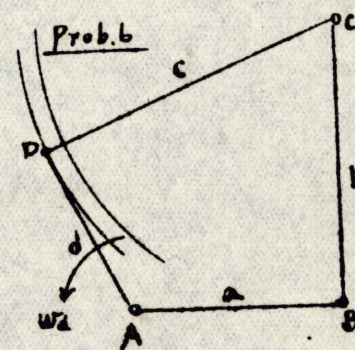
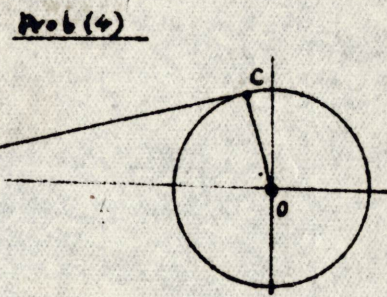
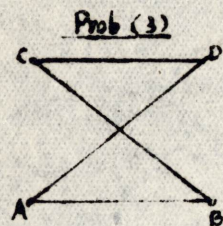
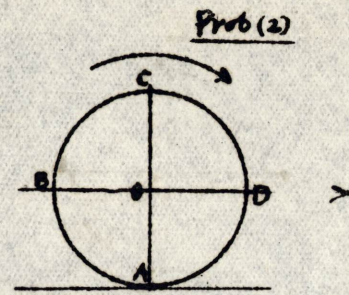
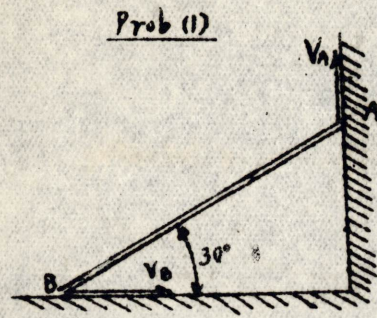
第28圖, —  
primary motion



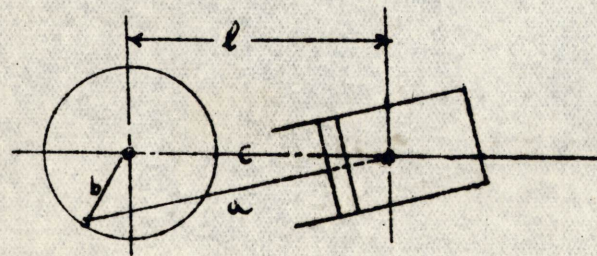
第28圖



第32圖  
練習問題，附圖

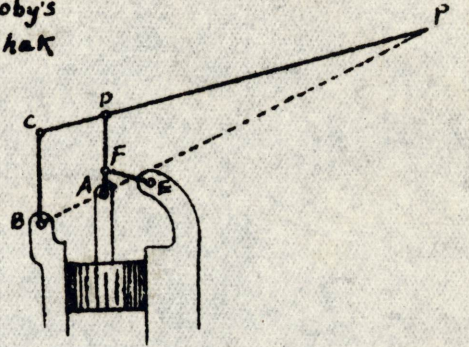


Prob. 8.

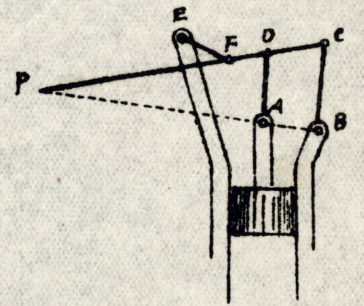


Prob 4  
Mechanism of Indicator

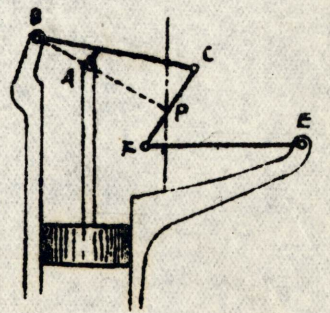
(1) Crooby's  
Maihak



(2) Wada's  
Thompson's

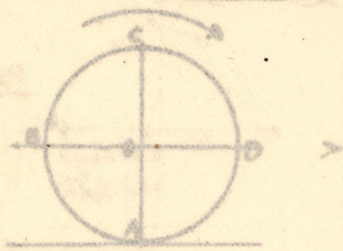
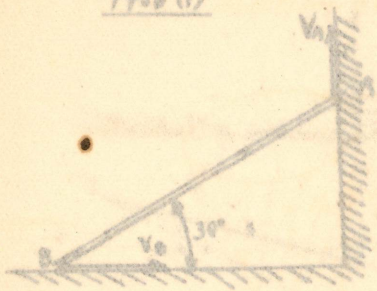


(3) Richard's

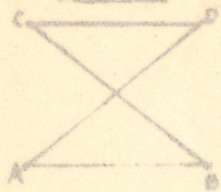




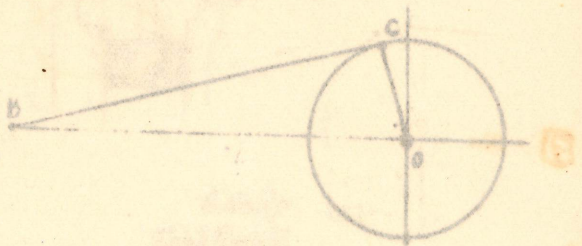
Prob (1)



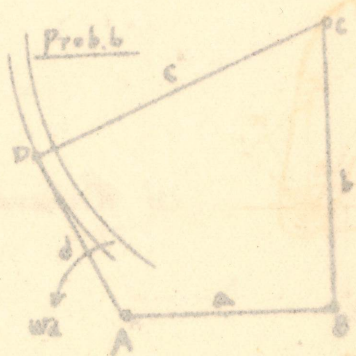
Prob (2)



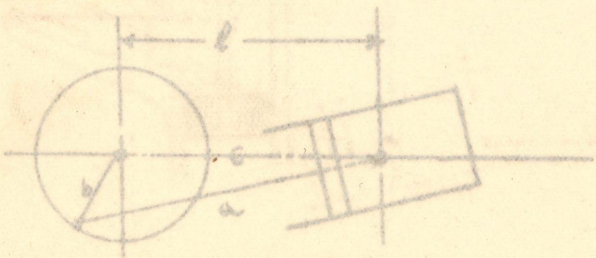
Prob (4)



Prob. b



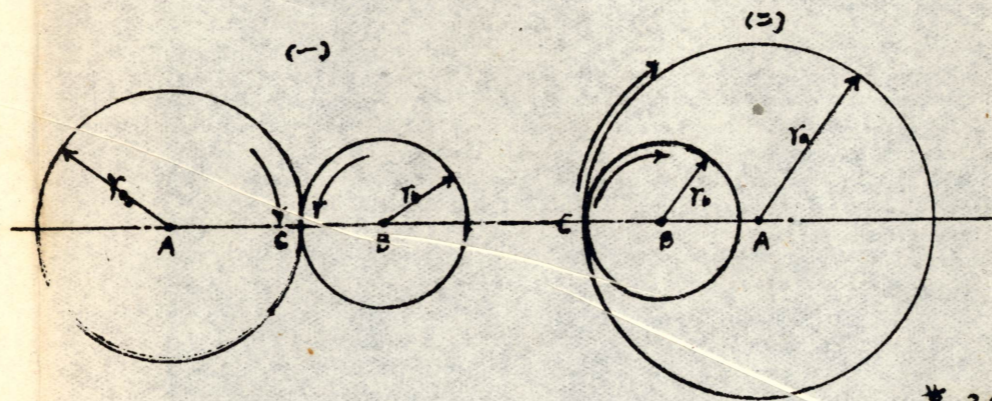
Prob. 8



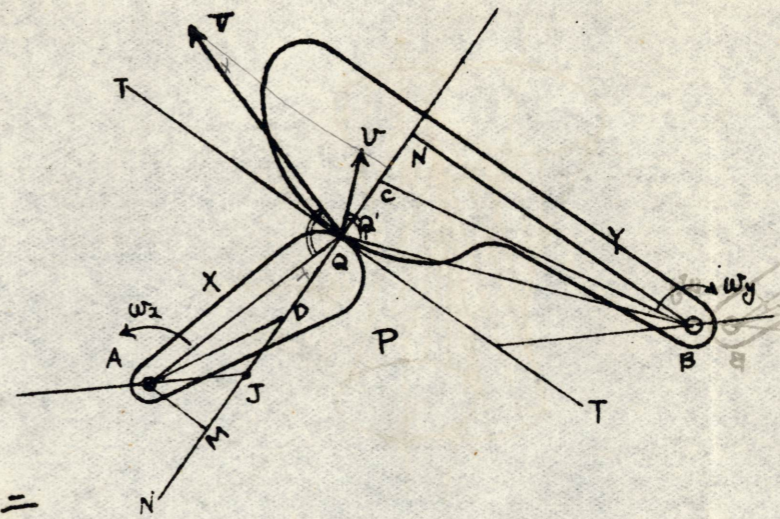




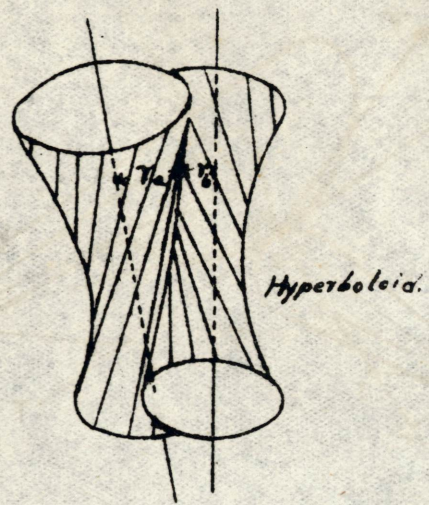
第33圖  
Rolling Contact  
Friction gearing



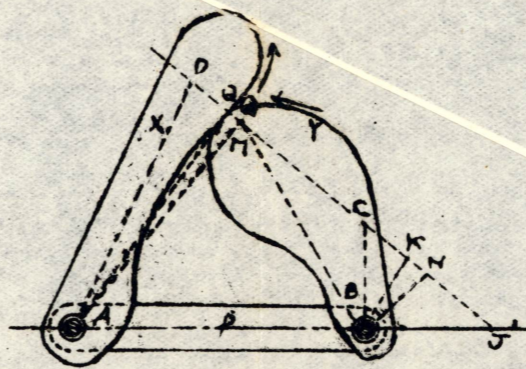
第36圖, 一



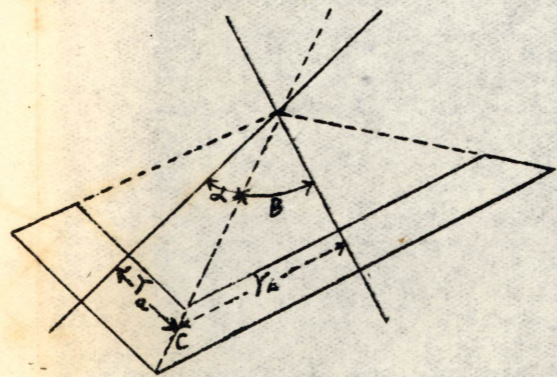
第35圖  
Friction gearing.



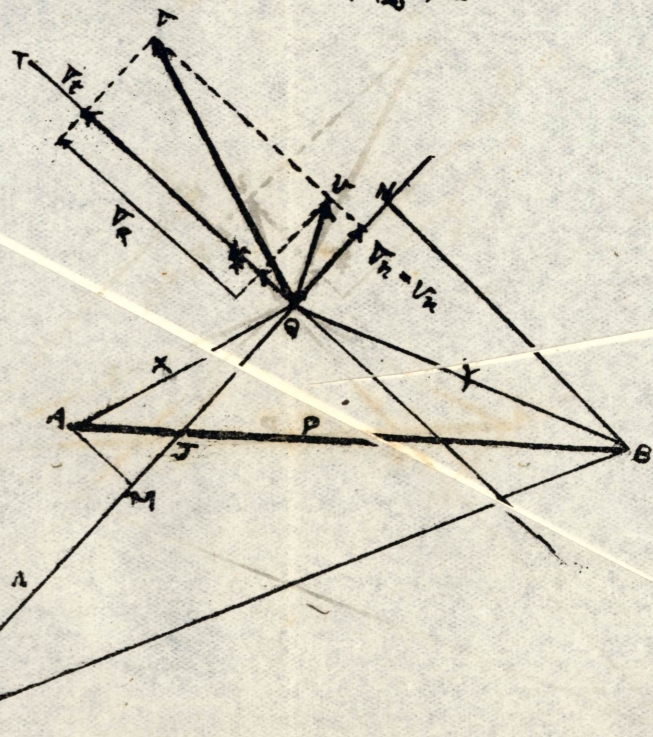
第36圖, 二



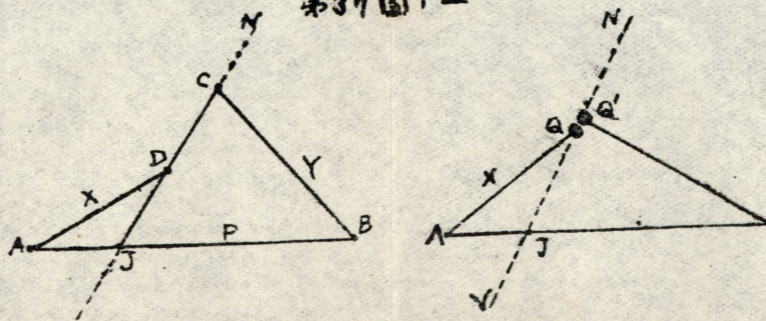
第34圖  
Rolling Contact  
Friction Gearing.



第37圖, 一

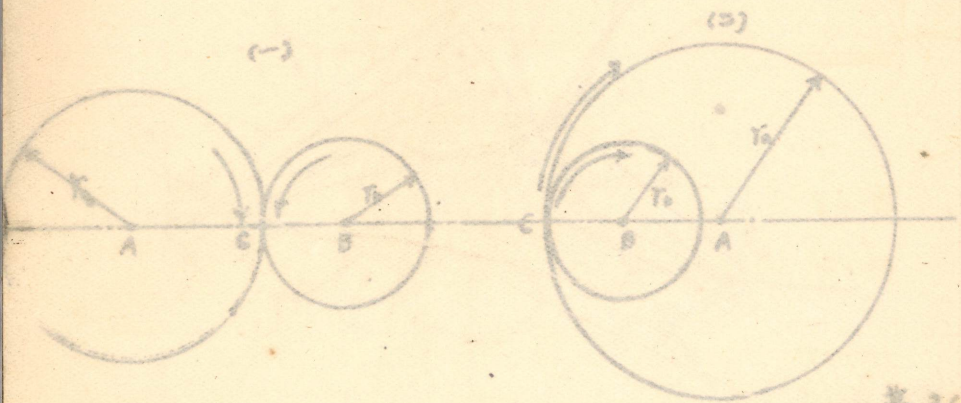


第37圖, 二



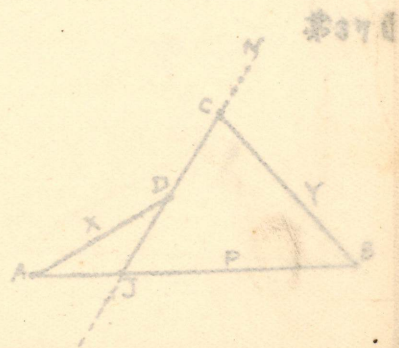
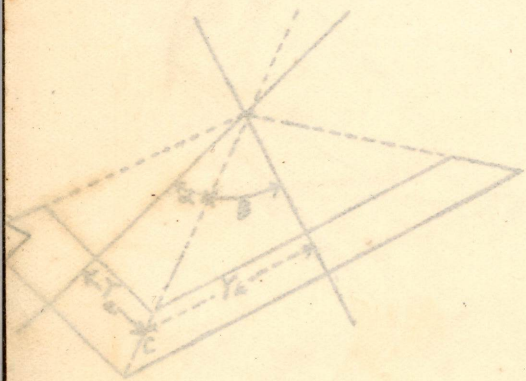


第33圖  
Rolling Contact  
Friction gearing



第36

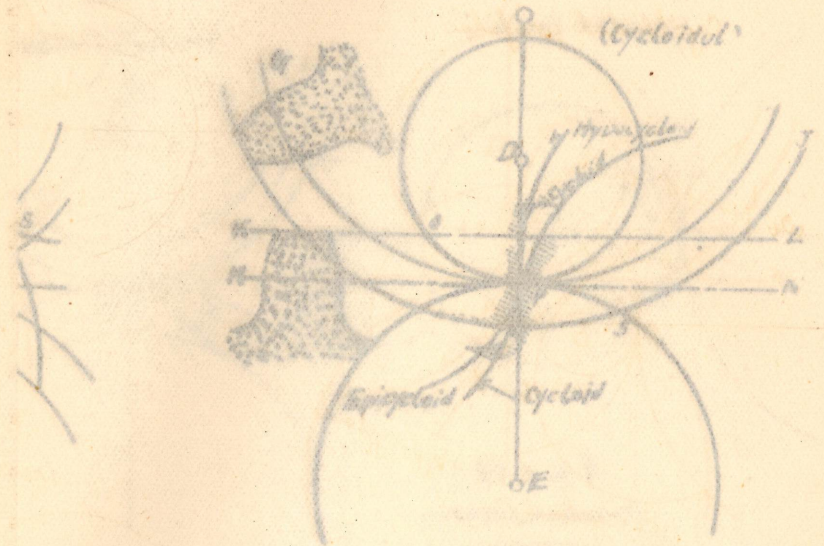
第34圖  
Rolling Contact  
Friction Gearing.



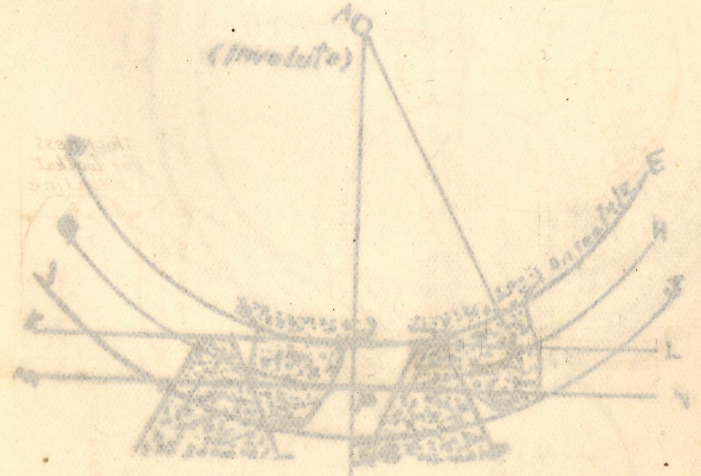
第37圖

第38圖

第44圖  
Rack and pinion

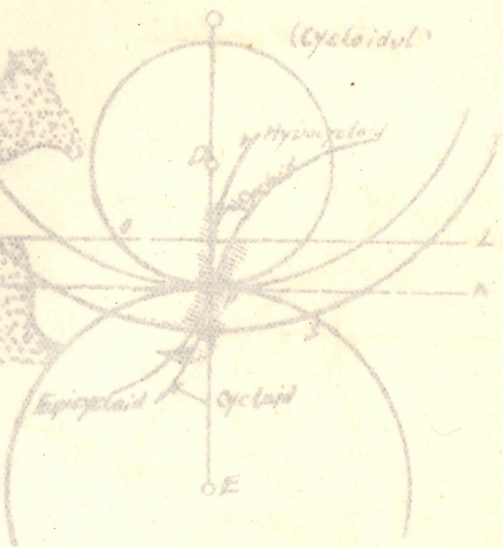


第44圖  
Rack and pinion

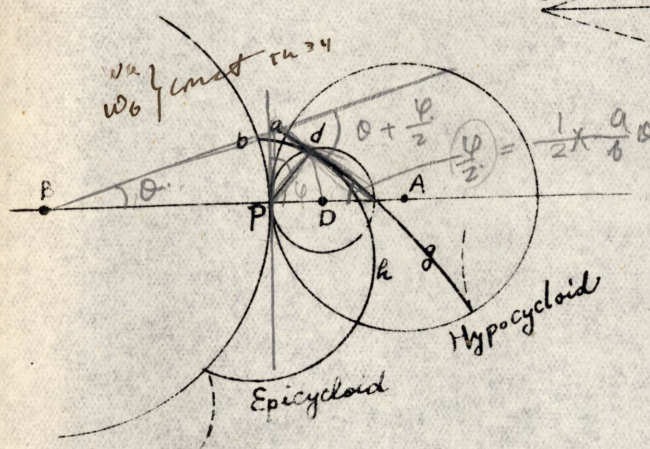




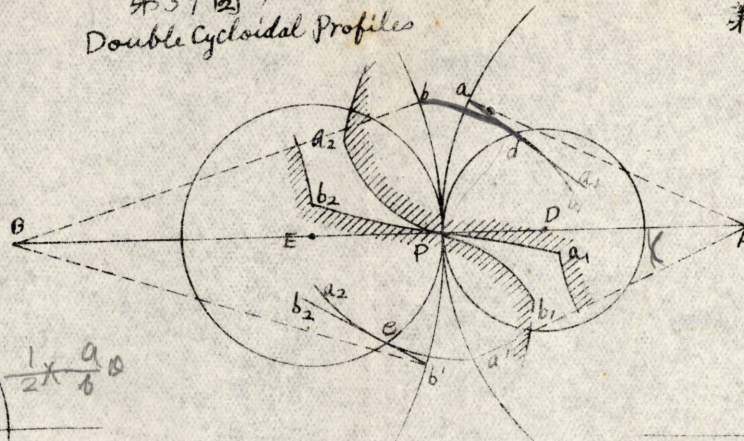
第44图, 一  
Rack and pinion



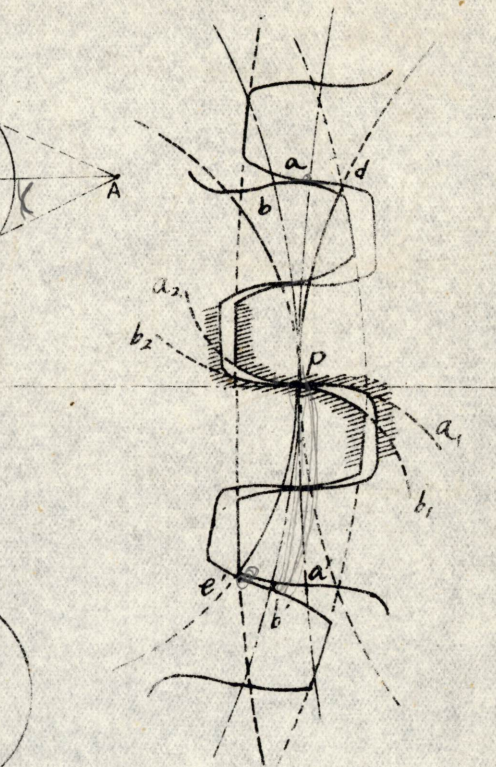
第38图, 一  
Cycloidal profiles



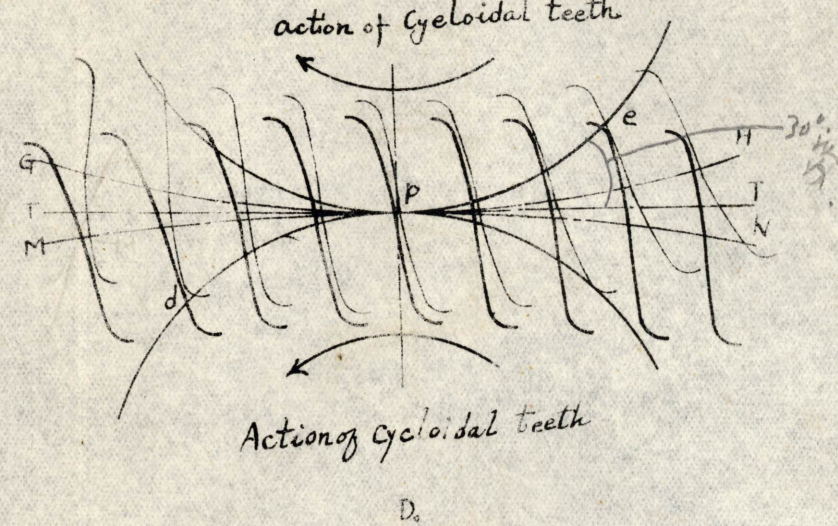
第39图, 一  
Double Cycloidal Profiles



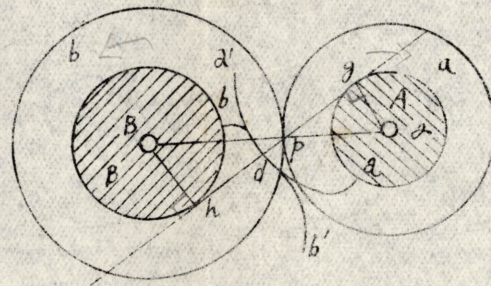
第39图, 二



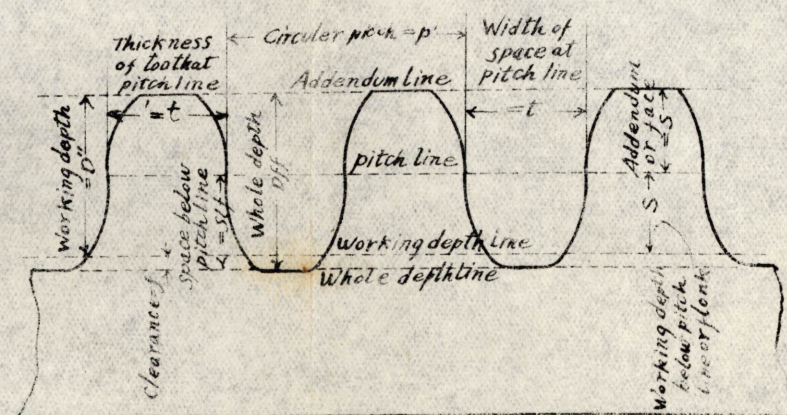
第42图, 一  
action of Cycloidal teeth



第40图  
Involute teeth

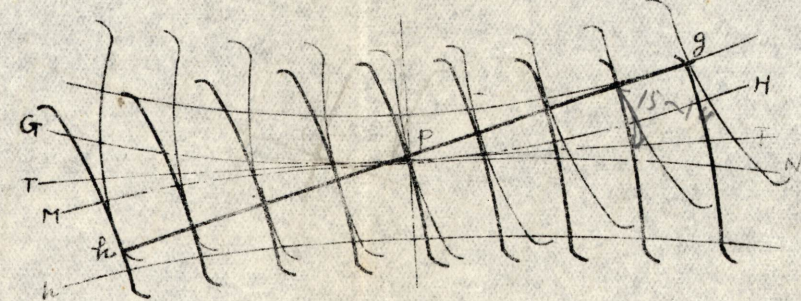


第41图

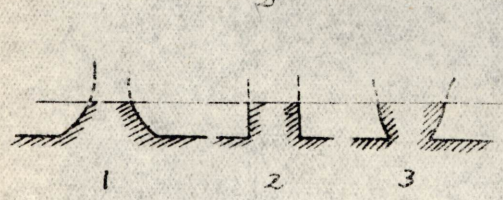
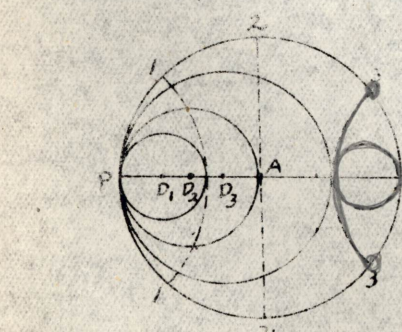
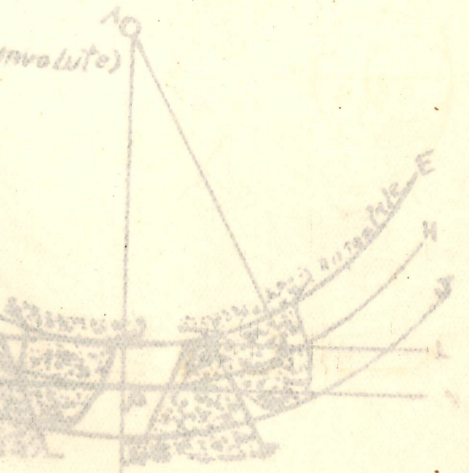


第42图, 二

Action of involute teeth



第44图  
Rack and pinion



g g h



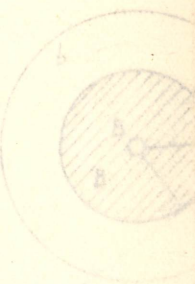




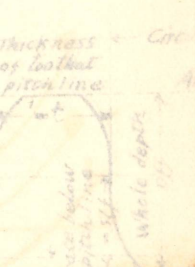
7圖  
Cycloidal Prof.



第43圖  
Involute

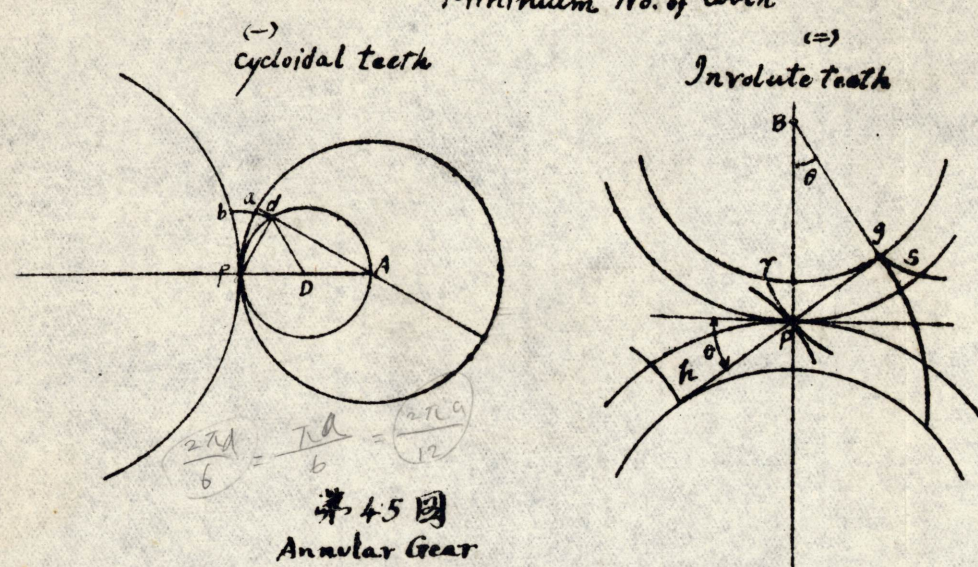


第44圖

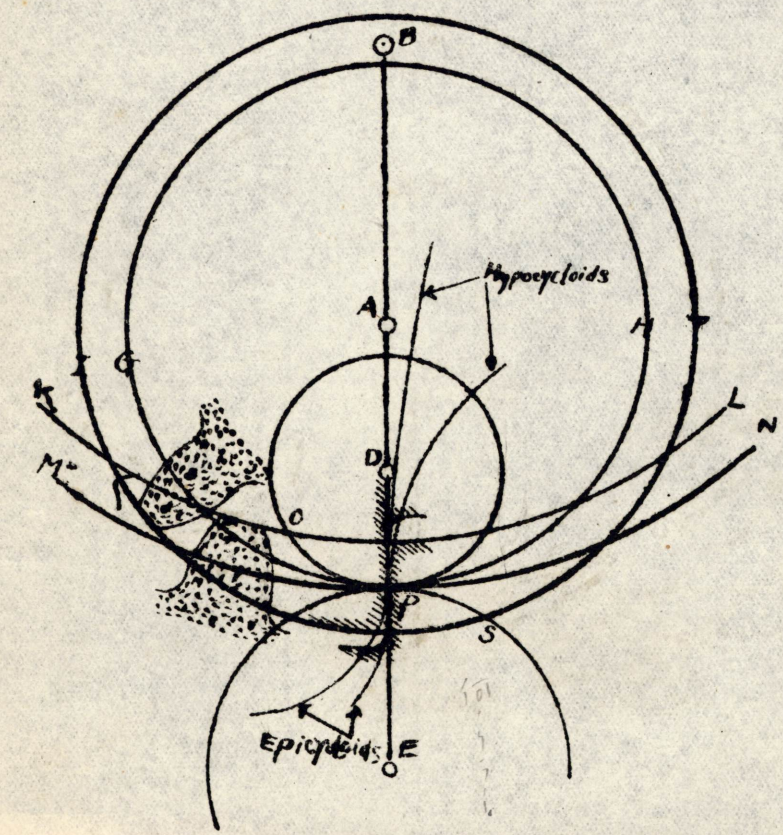


Thickness of tooth  
of tooth  
pitch line  
Whole depth

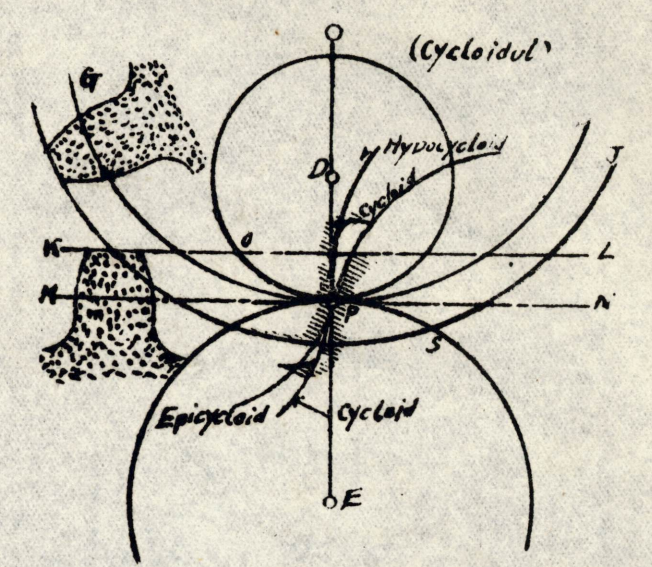
第43圖  
Minimum No. of tooth



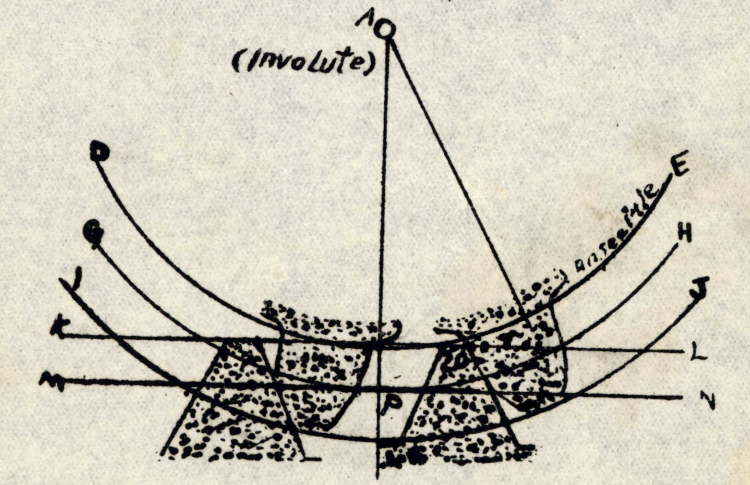
第45圖  
Annular Gear



第44圖, 一  
Rack and pinion

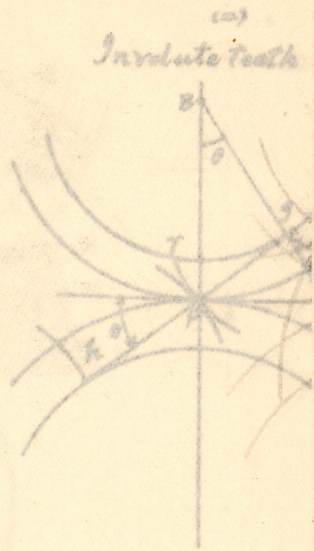
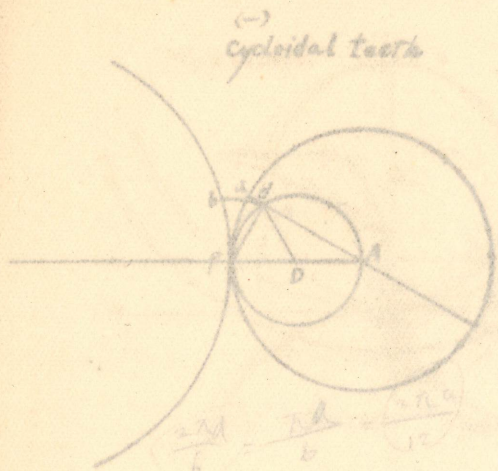


第44圖  
Rack and pinion

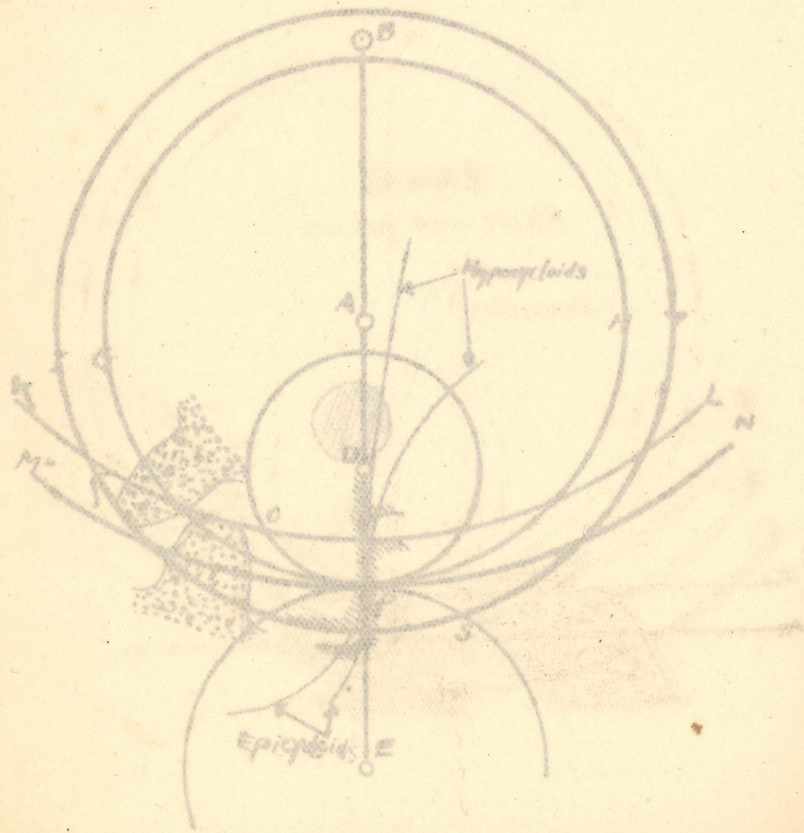




第43圖  
Minimum No. of tooth

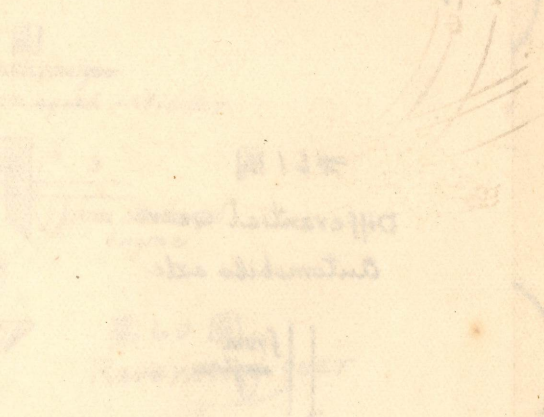
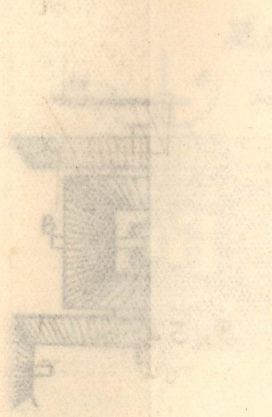
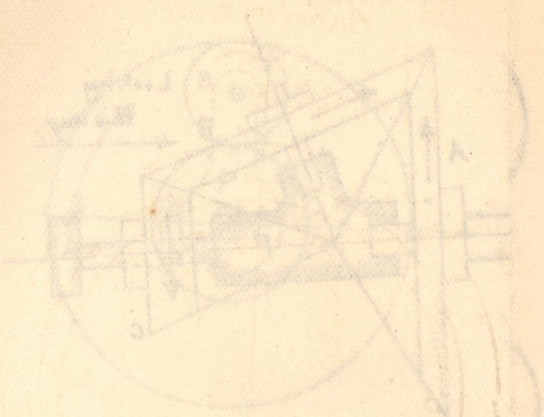


第45圖  
Annular Gear



第44圖

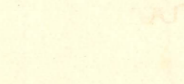
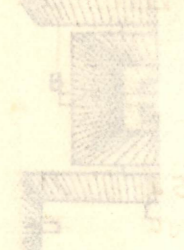
第44圖  
Bevel Gears



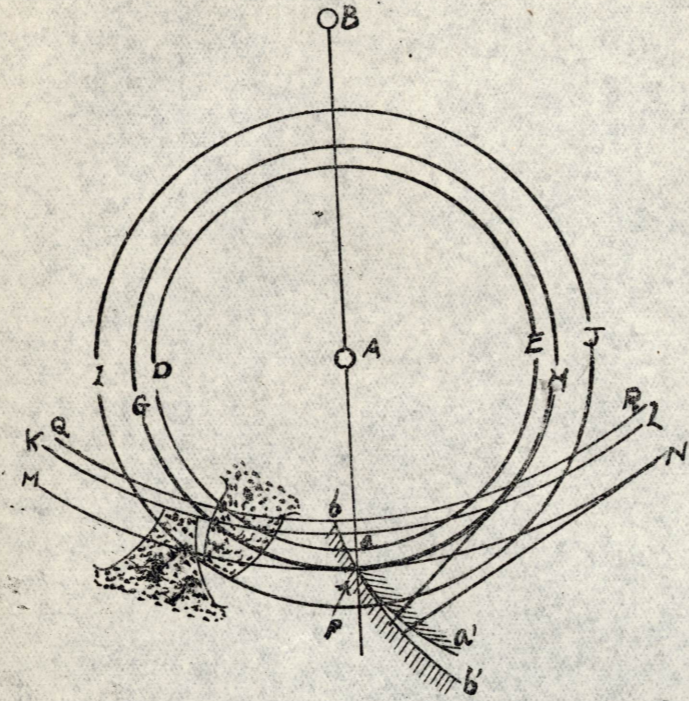
第44圖



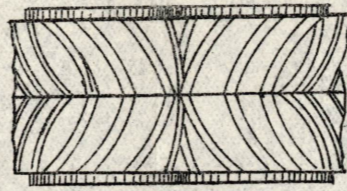
第59圖  
Steel wheel



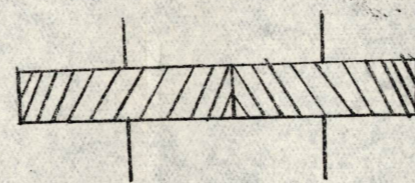
第46圖  
Annular Gear



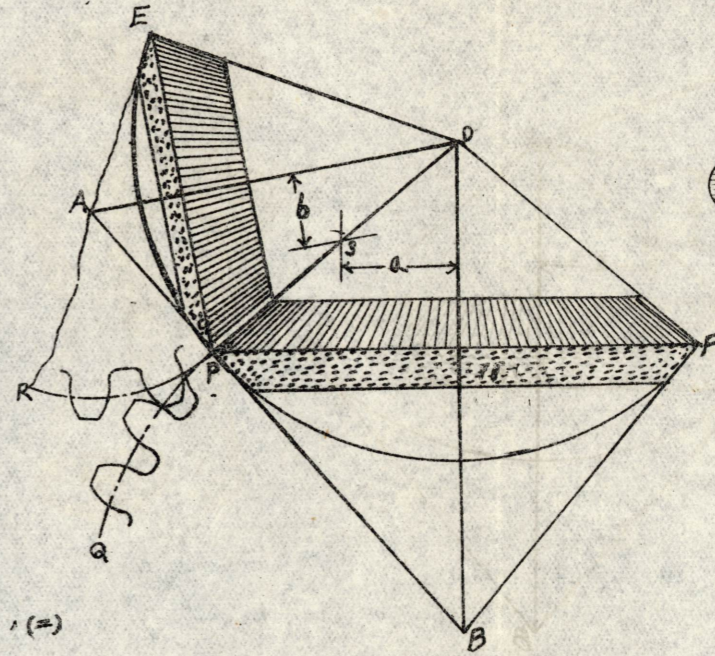
第49圖  
Double helical wheel.



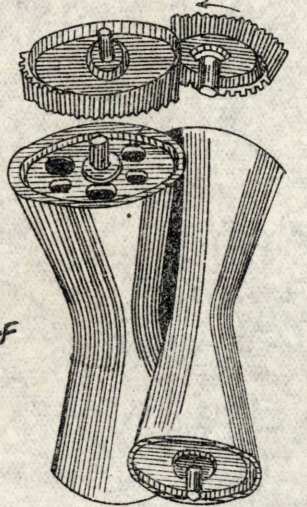
第48圖  
Helical wheel.



第50圖  
Bevel wheel



第51圖  
Skew Bevel wheel.



第52圖 (一)  
Screw gear

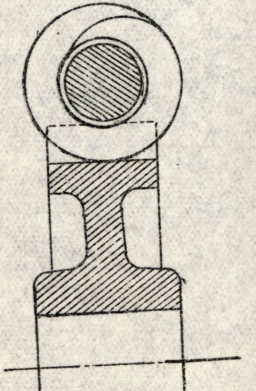
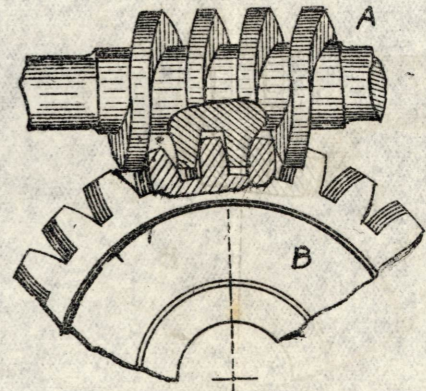
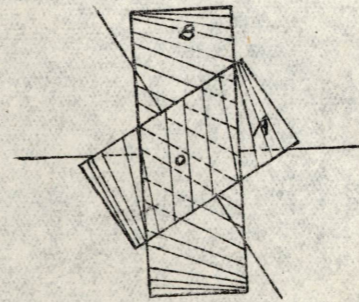
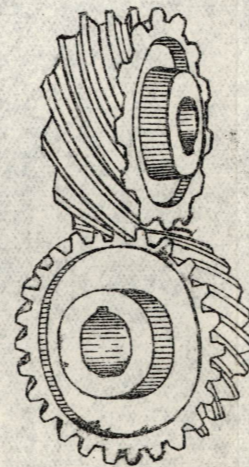
第52圖 (二)  
screw gear

第47圖  
Stepped teeth



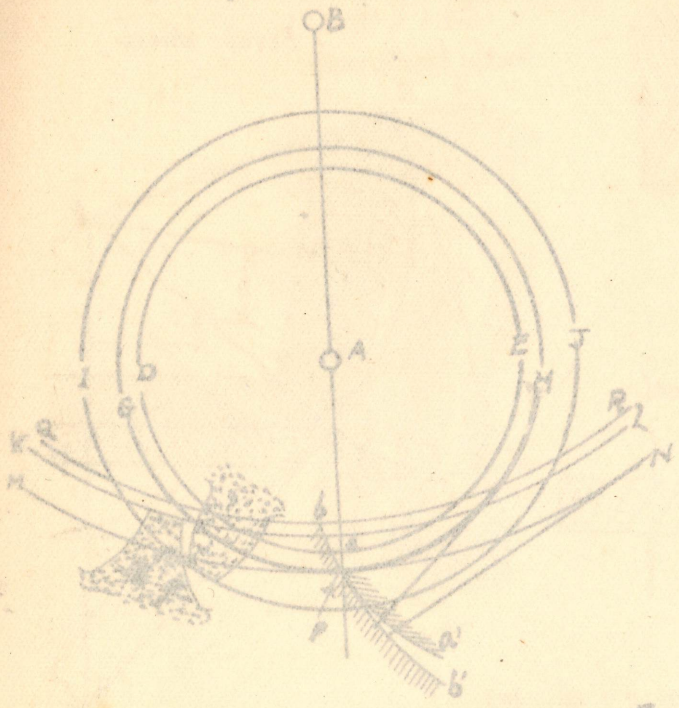
工部局

第53圖  
Worm and worm wheel.

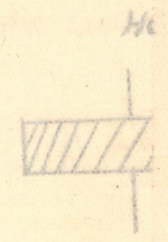
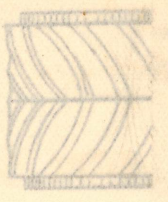




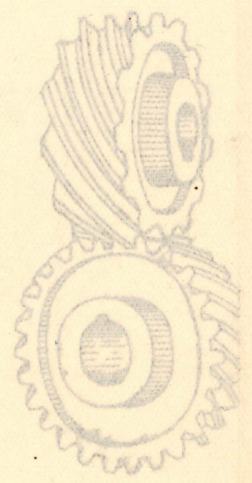
第46圖  
Annular Gear



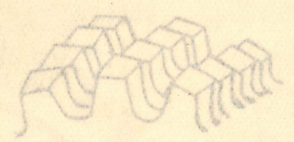
第  
Double h



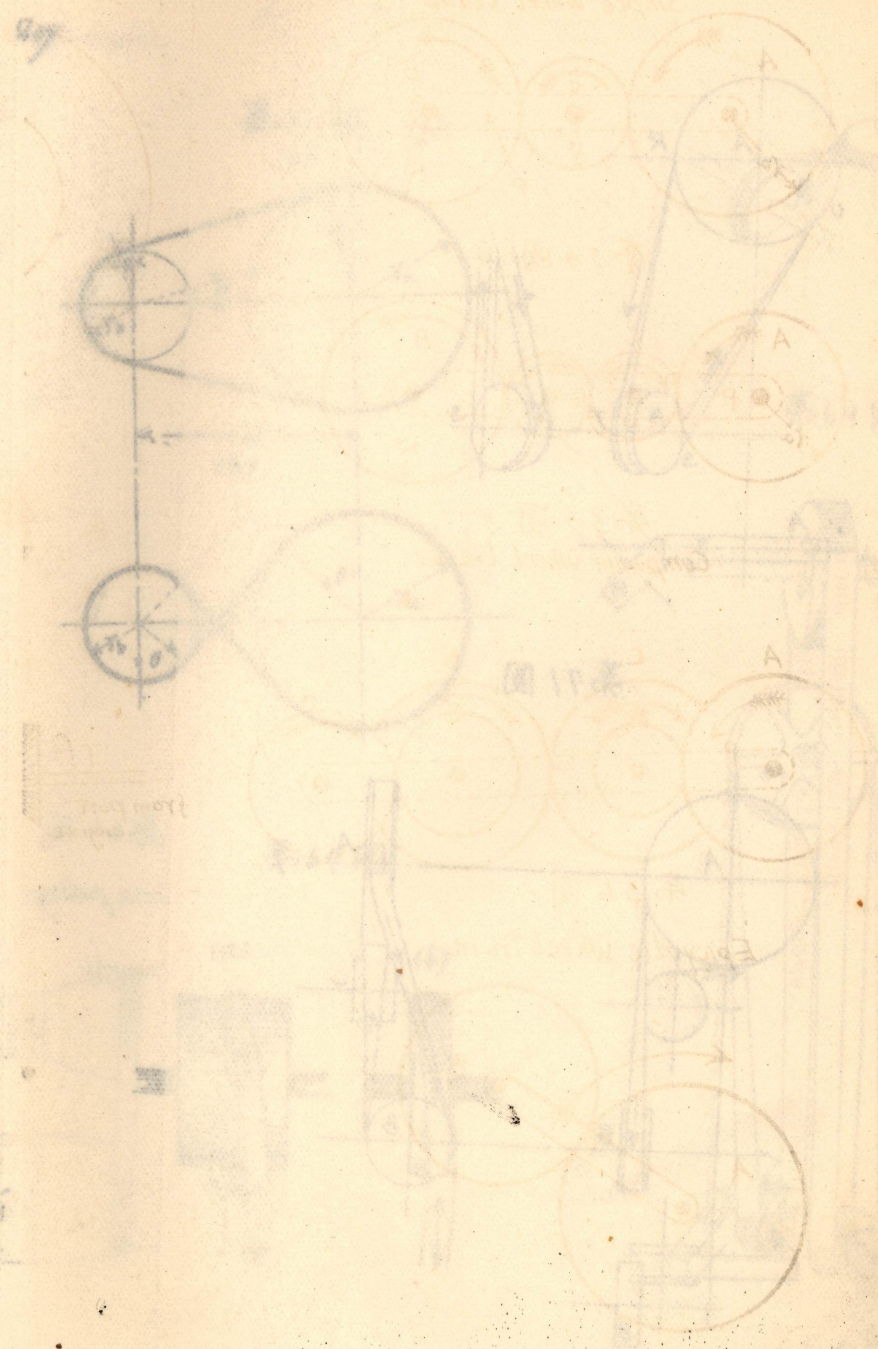
第52圖  
Screw gear



第47圖  
Stepped teeth

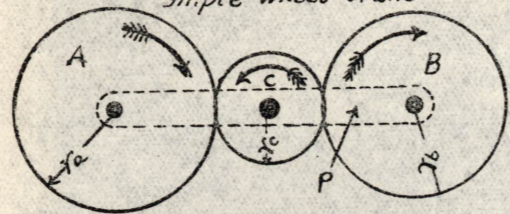


工  
能  
由

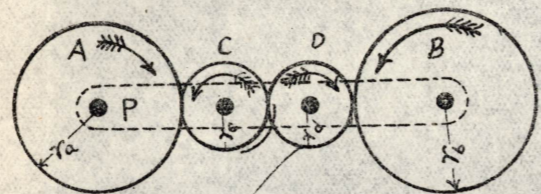




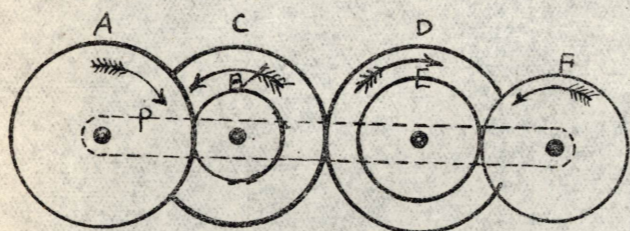
第54圖 一  
wheel train  
simple wheel train.



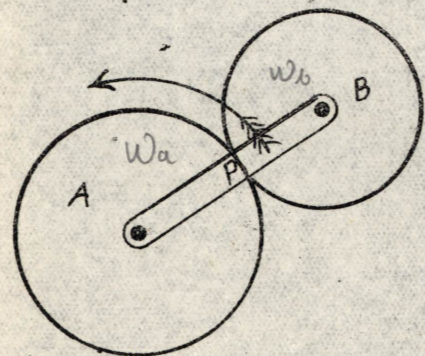
第54圖 =



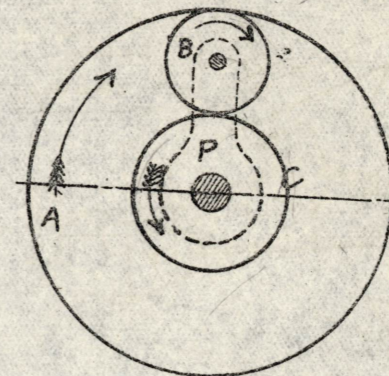
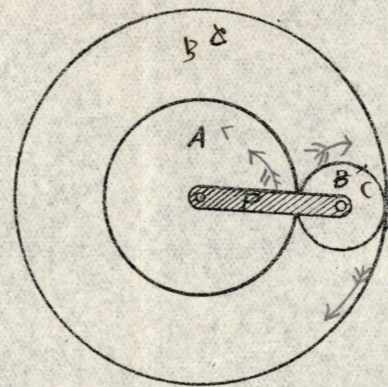
第55圖  
Compound wheel train



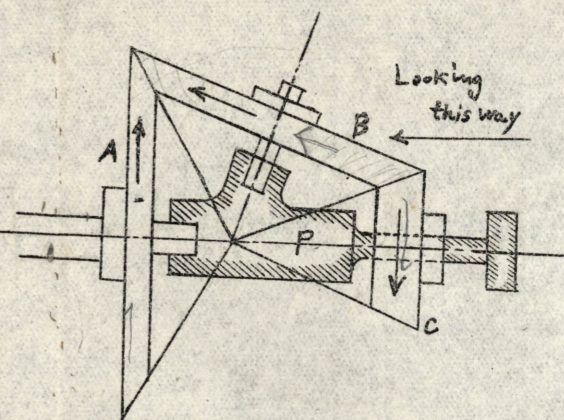
第56圖  
Epicyclic wheel train



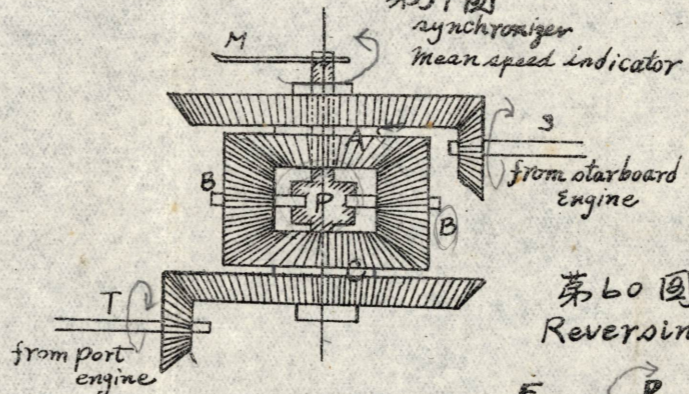
inner planet 同軸箱 = 111  
第57圖 H  
Reverted wheel train



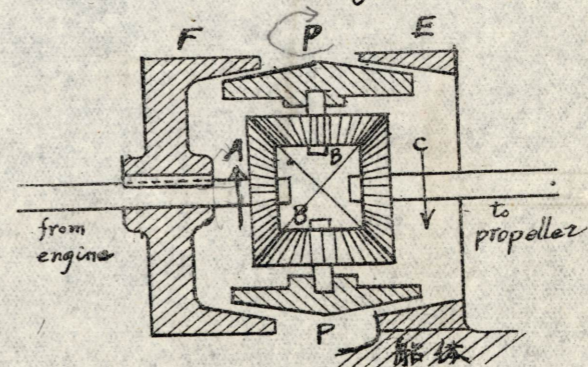
第58圖  
Bevel Train



第59圖  
synchronizer  
mean speed indicator

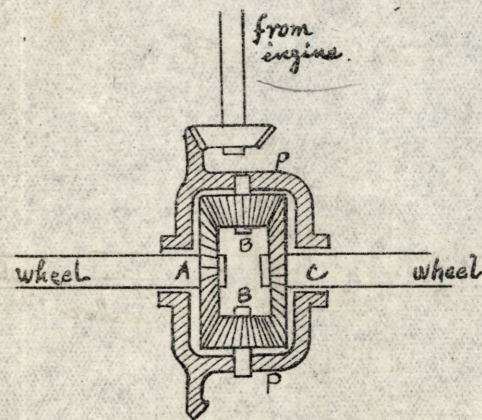


第60圖  
Reversing gear



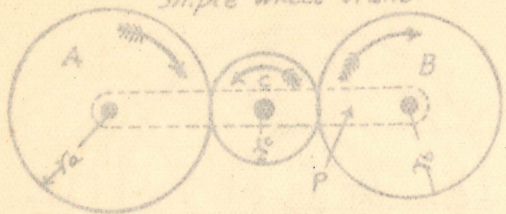
F-P 組合時  
全部一休トリ廻轉...前進  
P-E 組合時  
A-B-C 組合時...後進

第61圖  
Differential gear  
Automobile axle

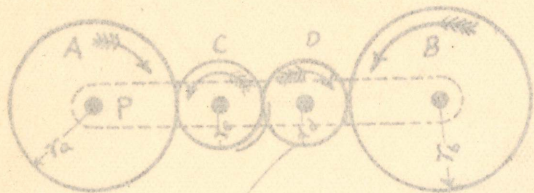




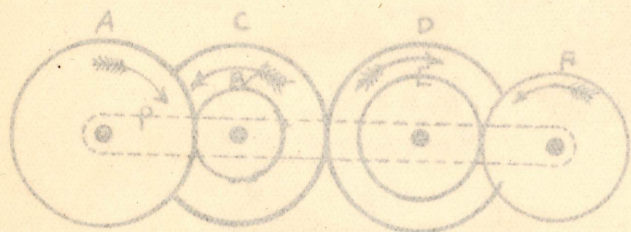
第54圖, -  
Wheel train  
simple wheel train.



第54圖, =

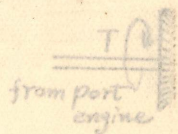
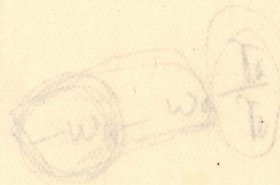
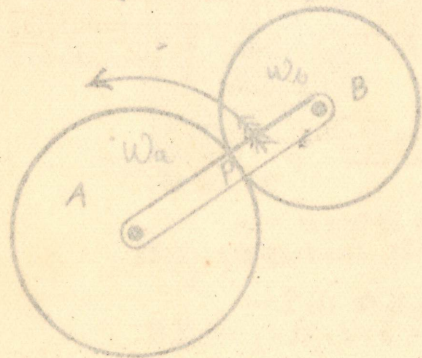


第55圖  
Compound wheel train



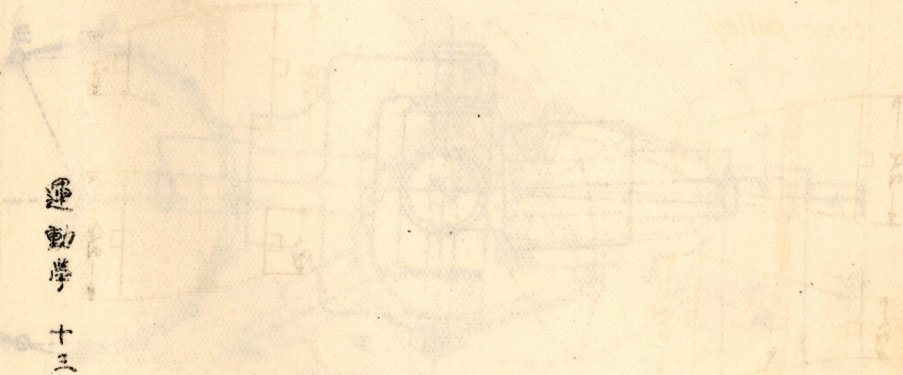
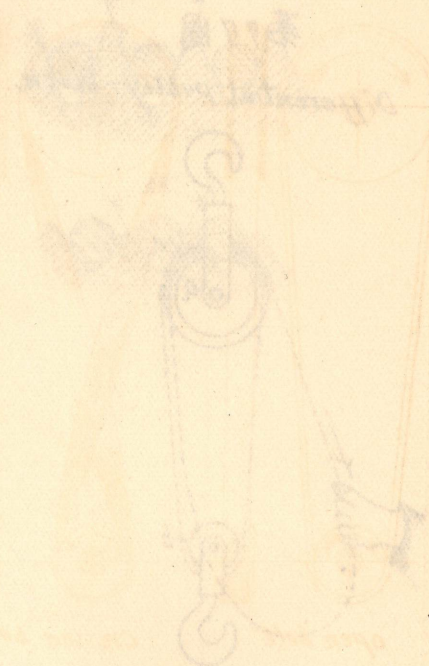
第56圖

Epicyclic Wheel Train



Reve

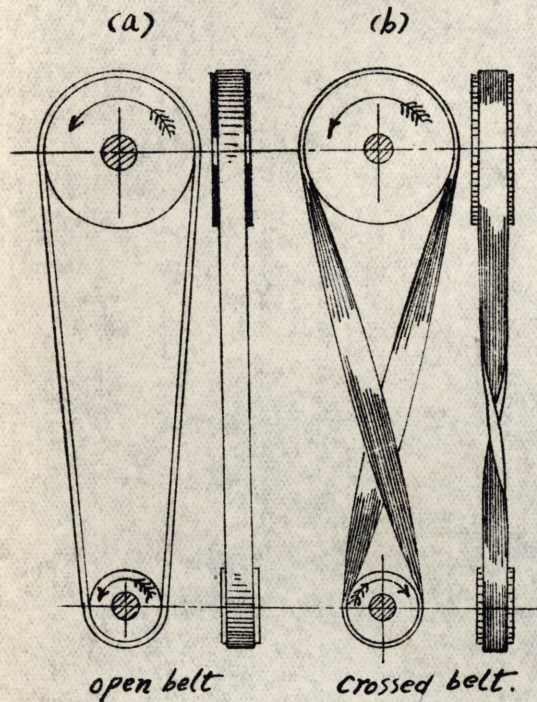
圖 13





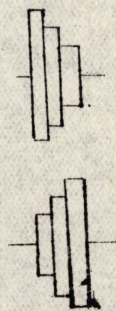
第62圖

Belt gearing

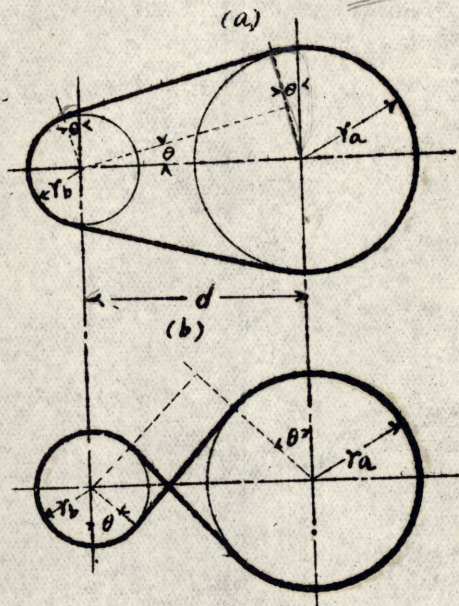


第63圖

stopped pulley

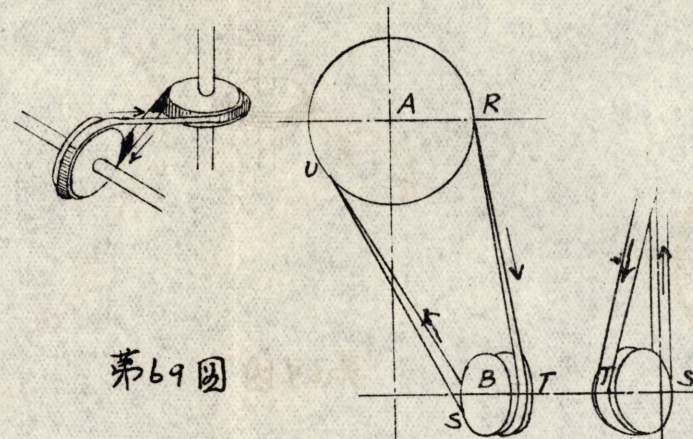


第64圖

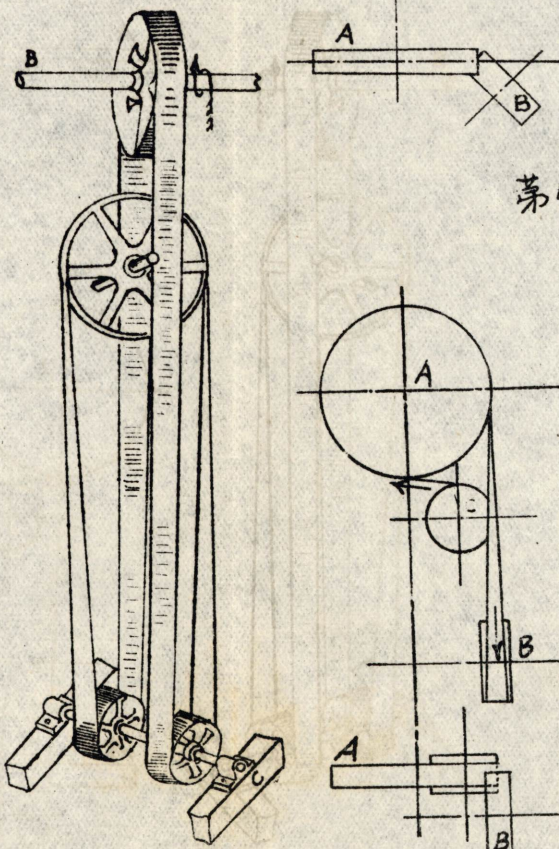


第68圖

第70圖

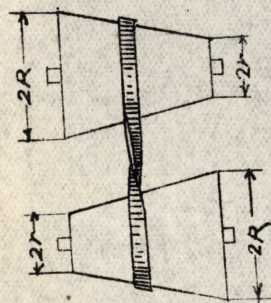


第69圖



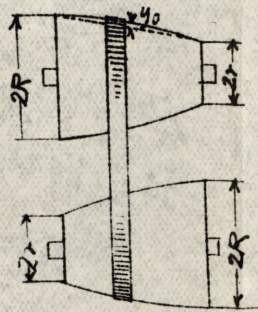
第71圖

第65圖  
Cone pulley

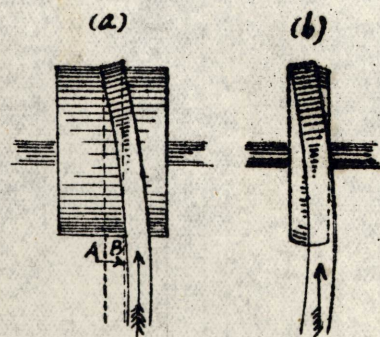


第66圖

Cone pulley.



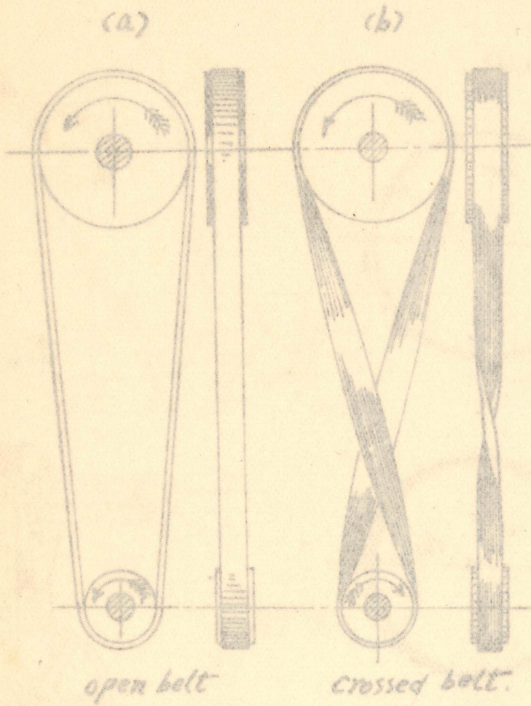
第67圖





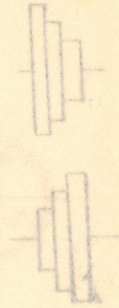
第62圖

Belt gearing



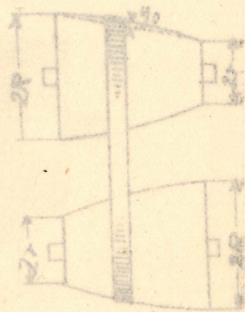
第63圖

stopped pin



第66圖

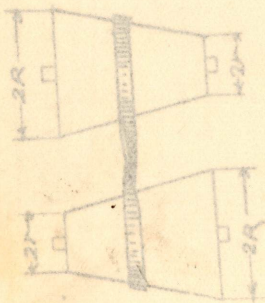
Cone pulley.



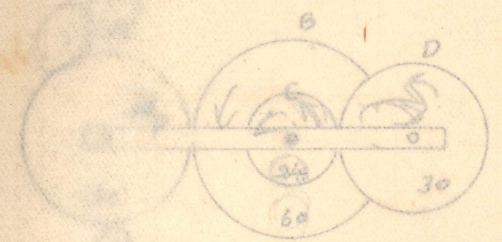
運動學 十三

第65圖

Cone pulley



Prob 5  
Cyclic Train



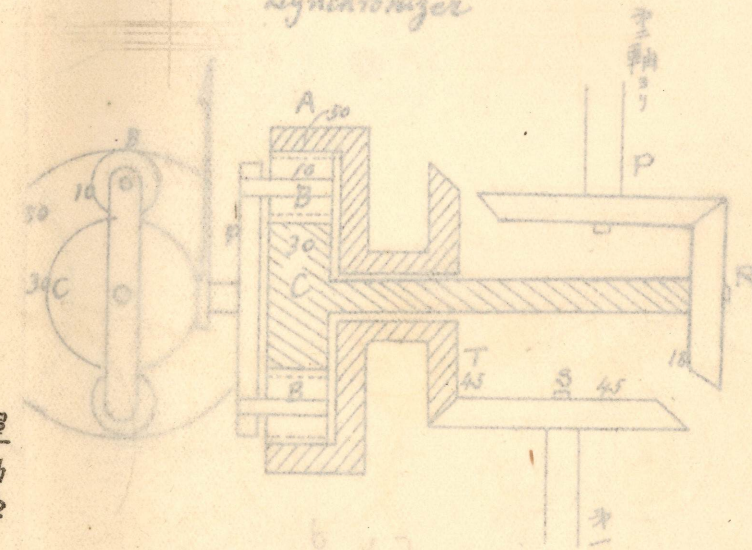
turbine

engine

1000 r.p.m.

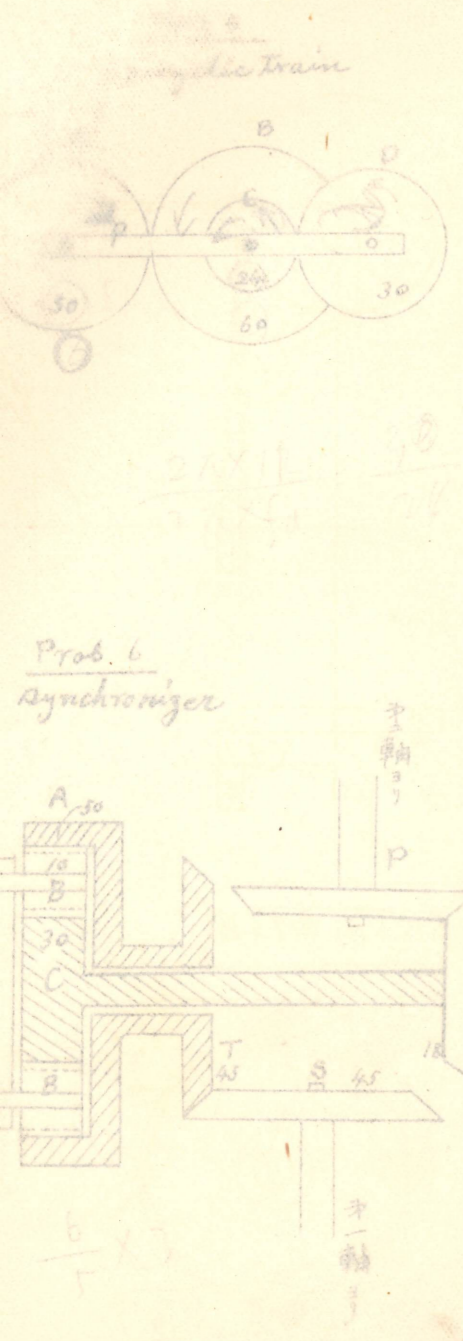
$$\frac{2 \times 112}{2 \times 112} = \frac{30}{20}$$

Prob. 6  
Synchronizer

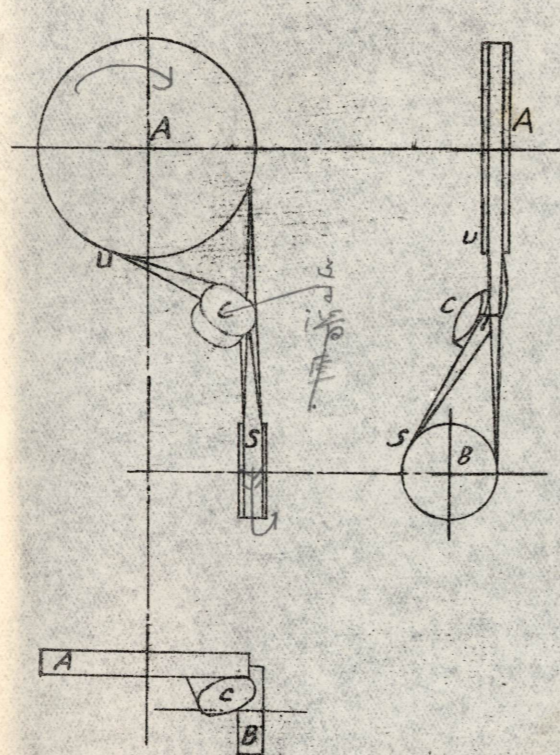


運動學 十四

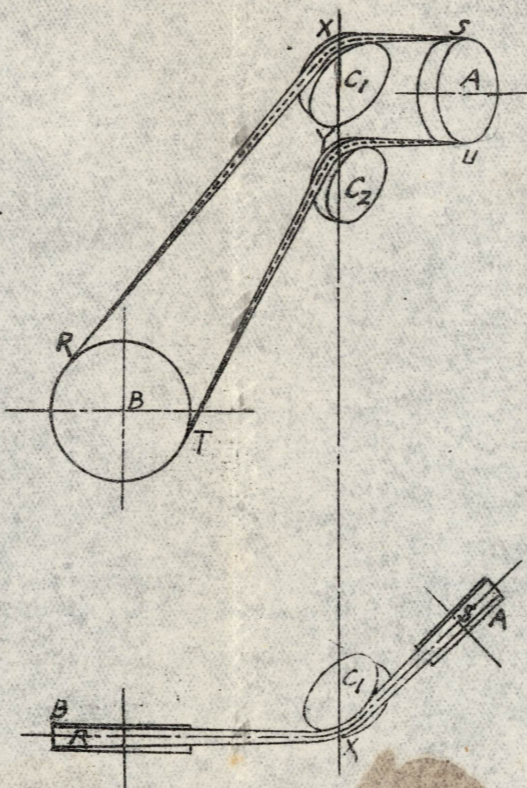




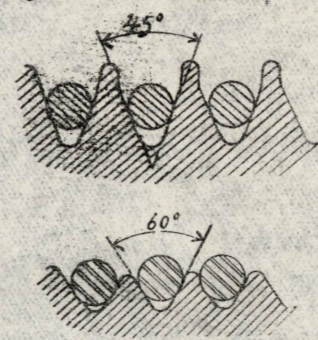
第72圖



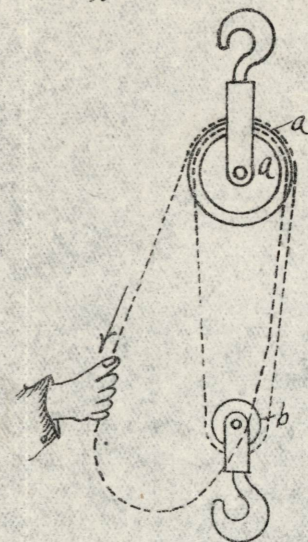
第73圖



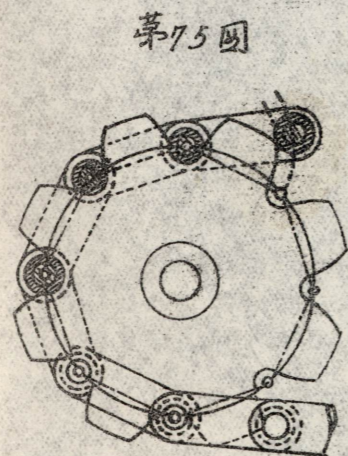
第74圖  
Groove for Rope Gearing



第77圖  
Differential pulley-block.

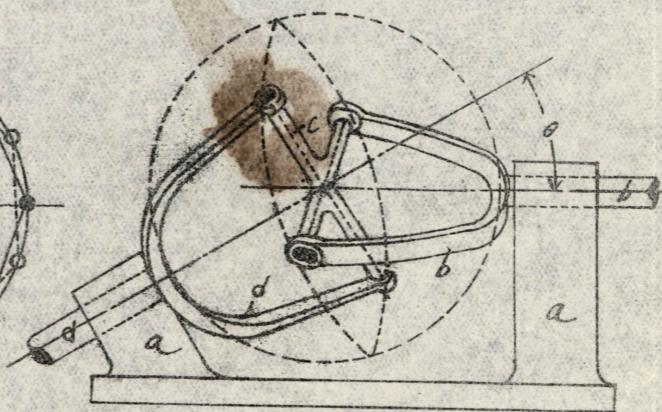
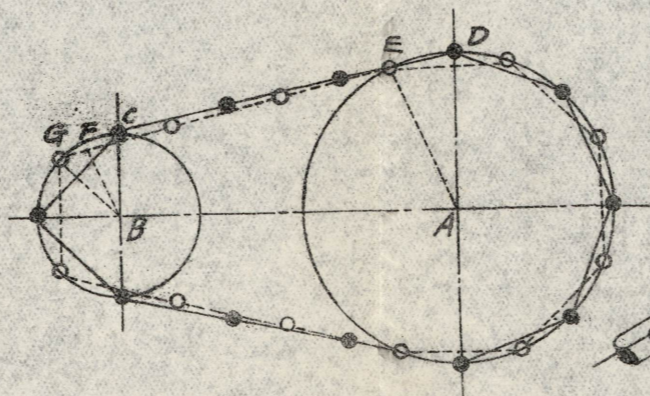


第76圖



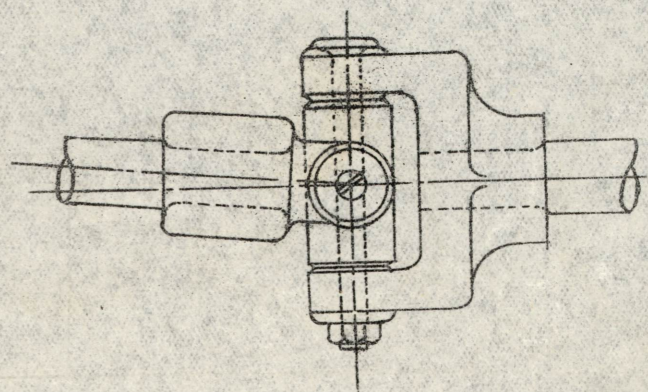
第78圖

Hookes universal joint.



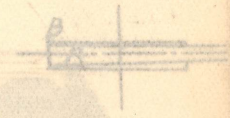
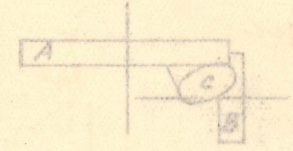
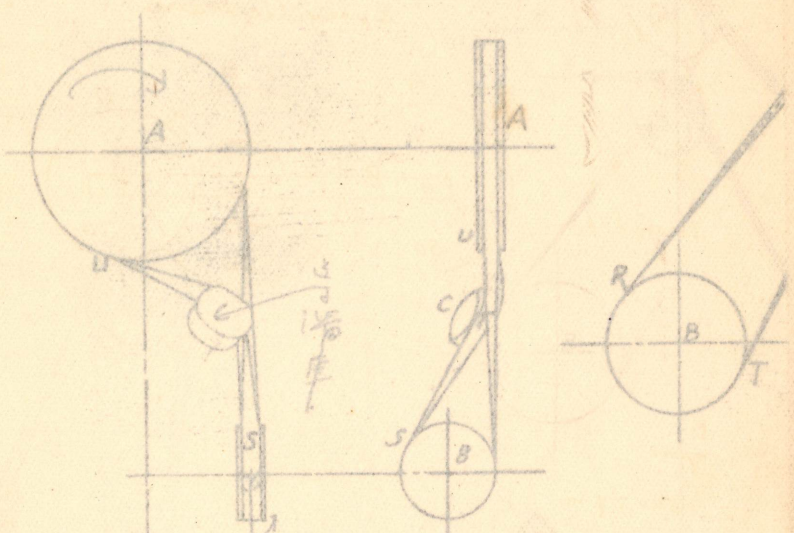
第79圖

Hookes universal joint.



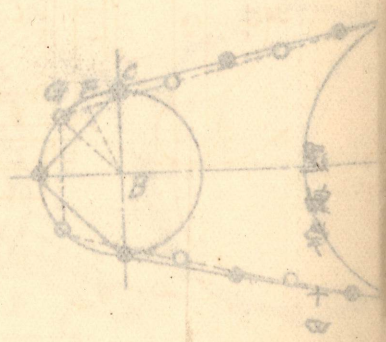
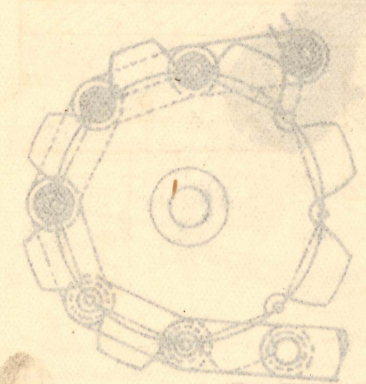


第72圖

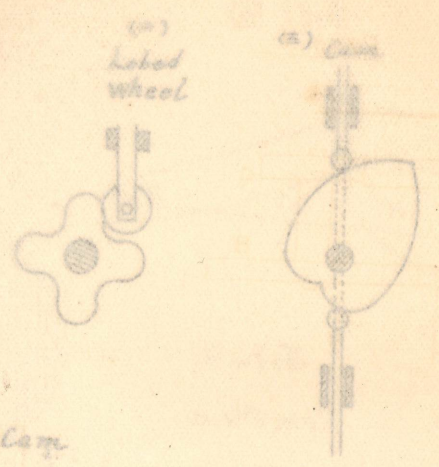


第76圖

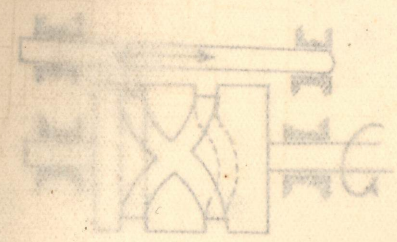
第75圖



第74圖

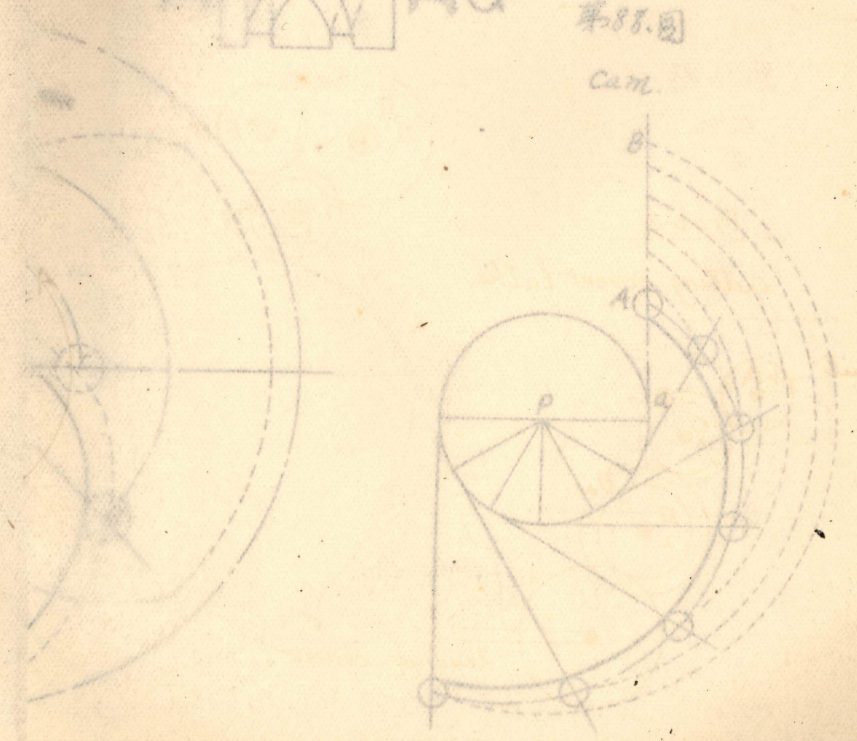


Cylindrical Cam

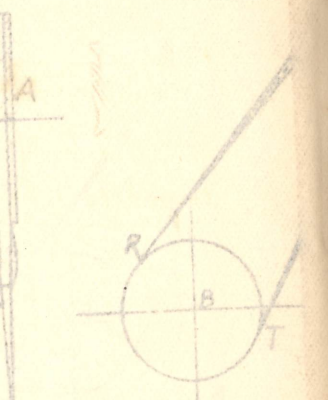


第88圖

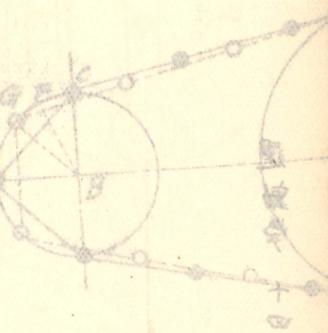
Cam





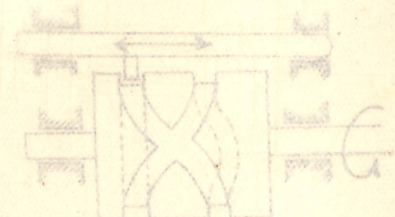


第76圖

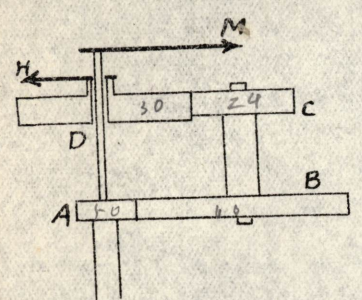


第85圖

Cylindrical Cam



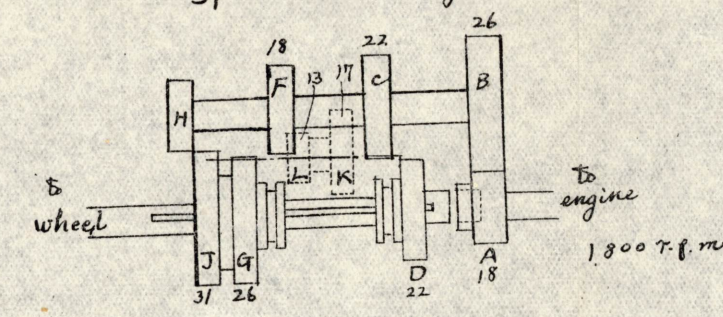
Prob 1



才80圖  
練習問題用圖

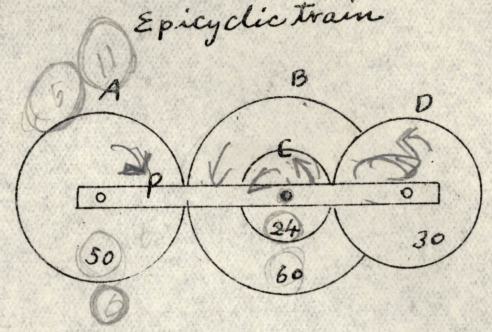
Prob 2

Speed Control gear Automobile



Prob 5

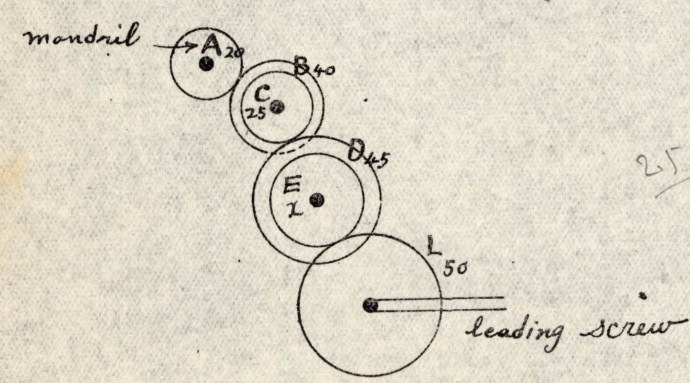
Epicyclic train



$$\frac{2\pi \times 12}{2\pi \times 60} = \frac{30}{70}$$

Prob 3

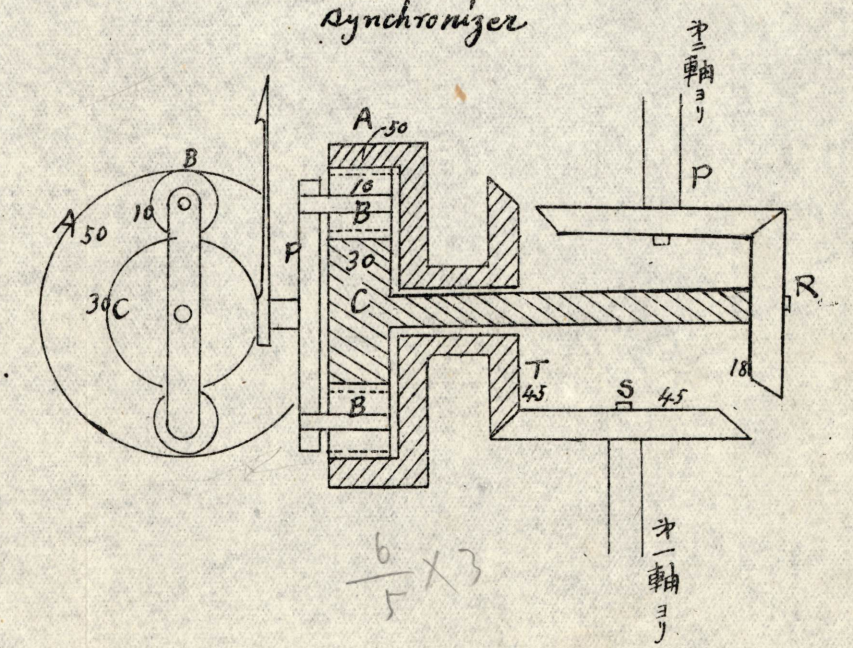
cutting screw lathe



$$\frac{25 \times 3}{5 \times 5 \times \frac{3}{2}} = \frac{15}{25}$$

Prob 6

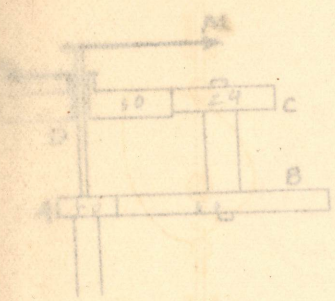
Synchronizer



$$\frac{6}{5} \times 3$$



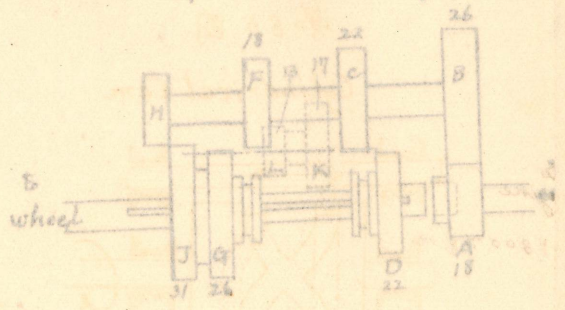
Prob 1



才 80 圖  
練習問題用

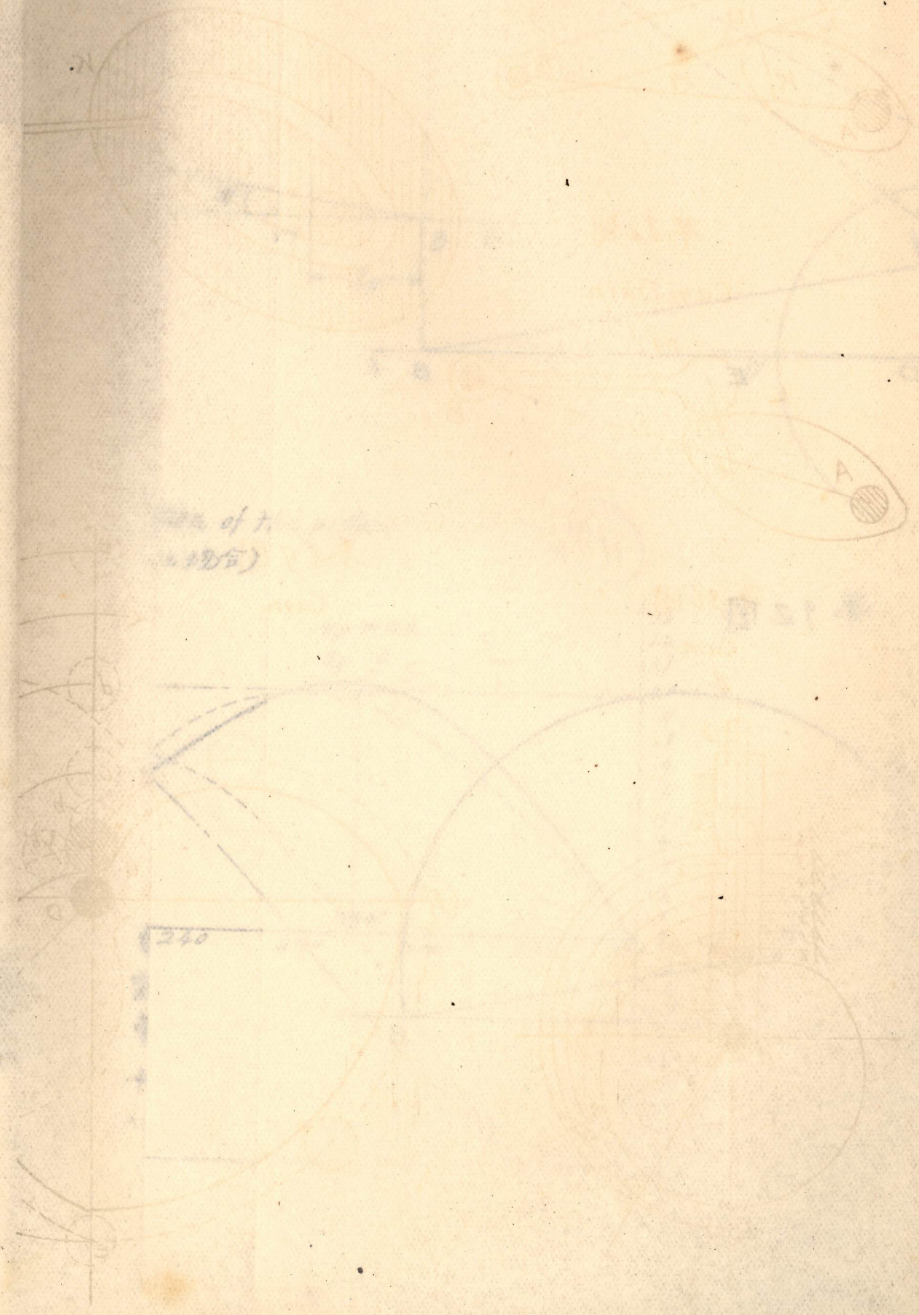
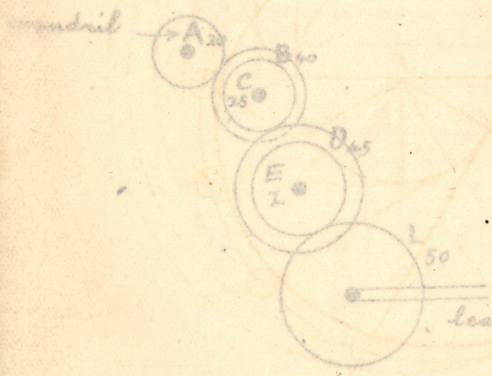
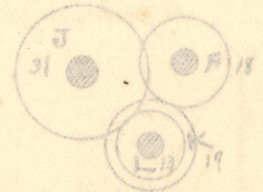
Prob 2

Speed Control gear



Prob 3

cutting screw lathe

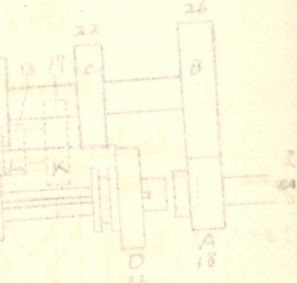


運



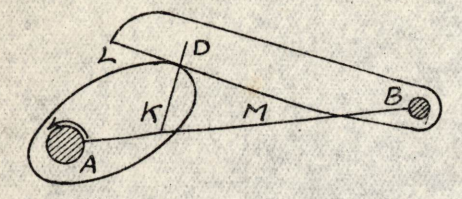
才 80 圖  
練習問題用

Prob 2  
Control gear

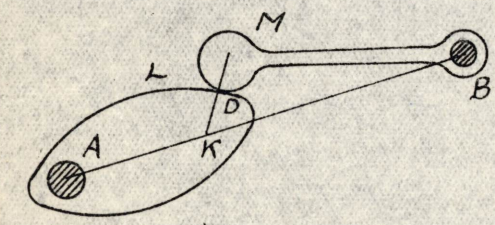


第 81 圖

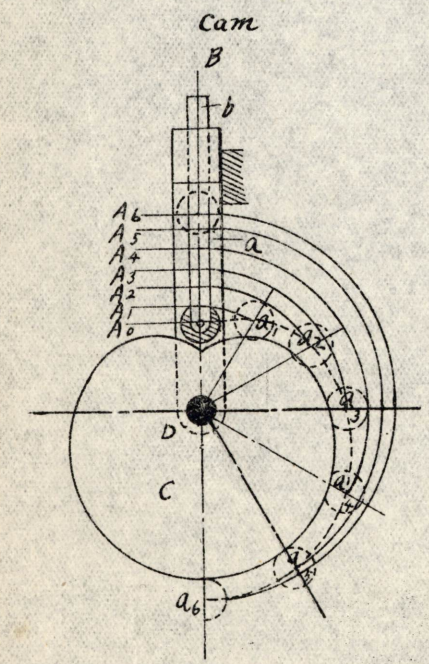
第 81 圖



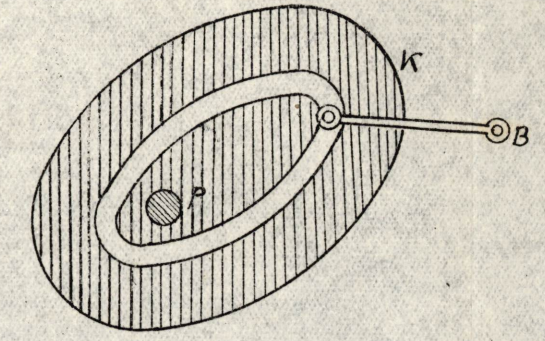
第 82 圖  
Cam train



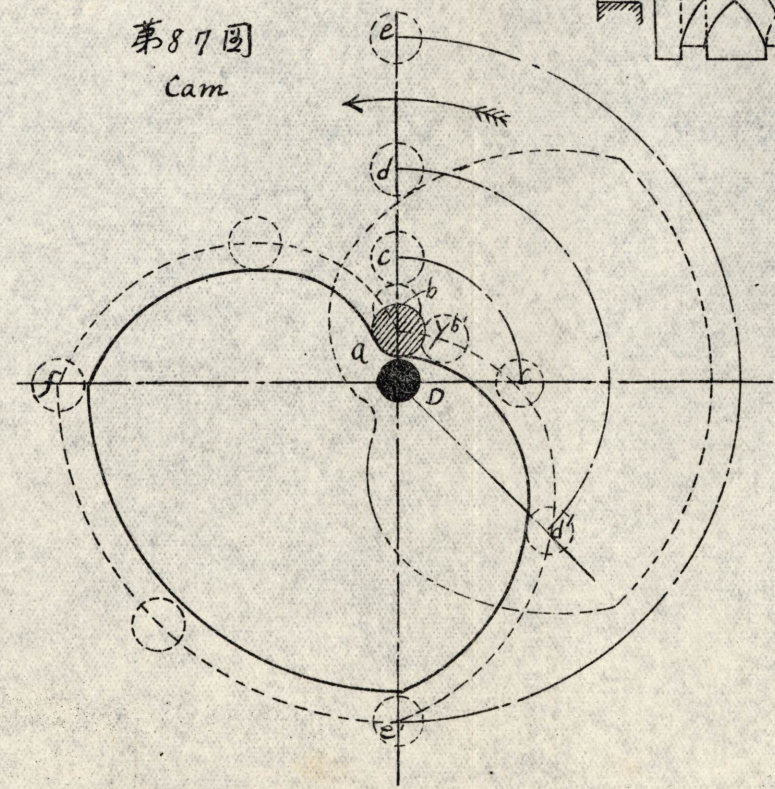
第 86 圖



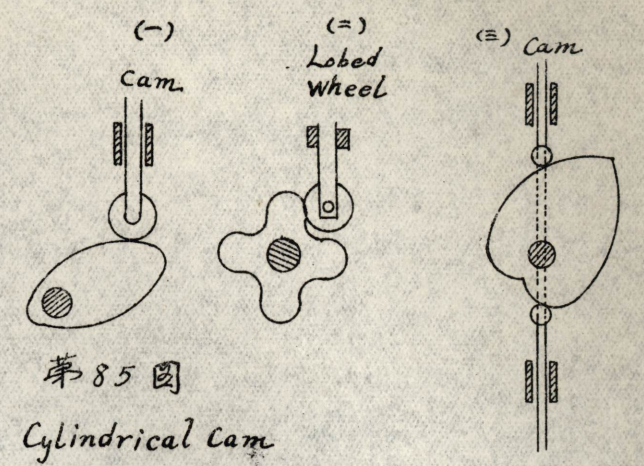
第 83 圖  
Grooved Cam



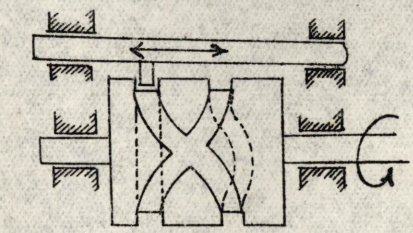
第 87 圖  
Cam



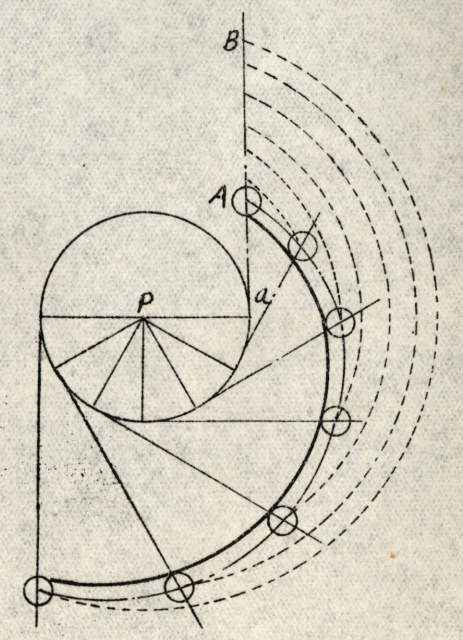
第 84 圖



第 85 圖  
Cylindrical Cam



第 88 圖  
Cam









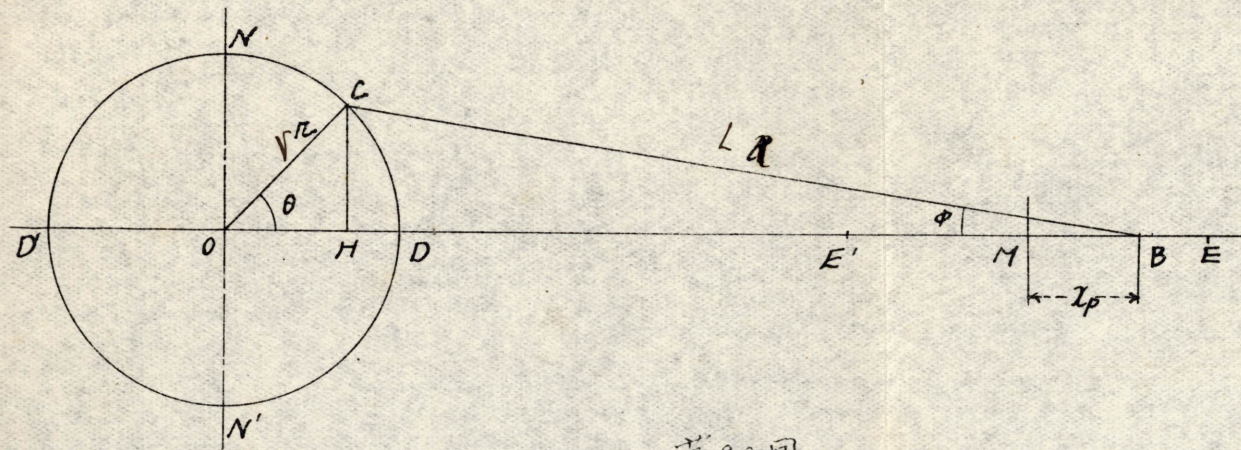
$$y = u + v$$

$$\frac{dy}{dx} = u' + v'$$

$$u = f(x)$$

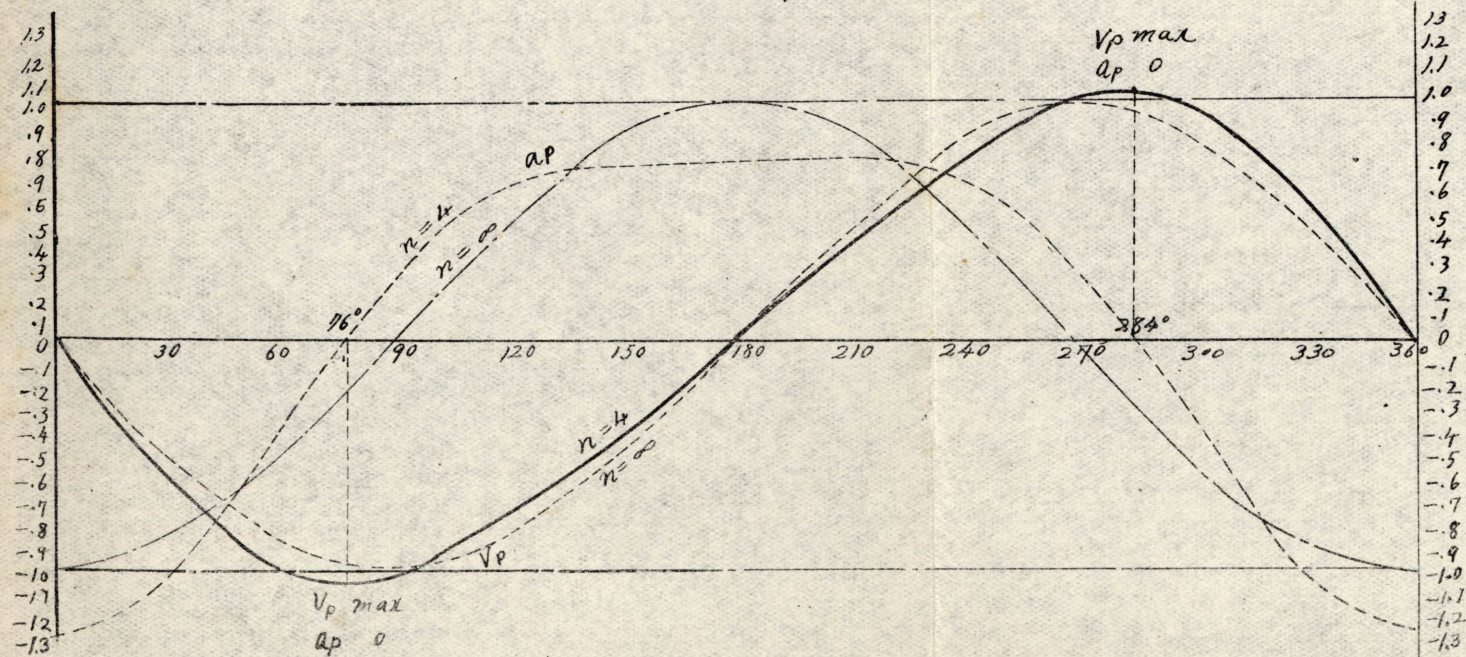
$$v = \varphi(x)$$

第89圖

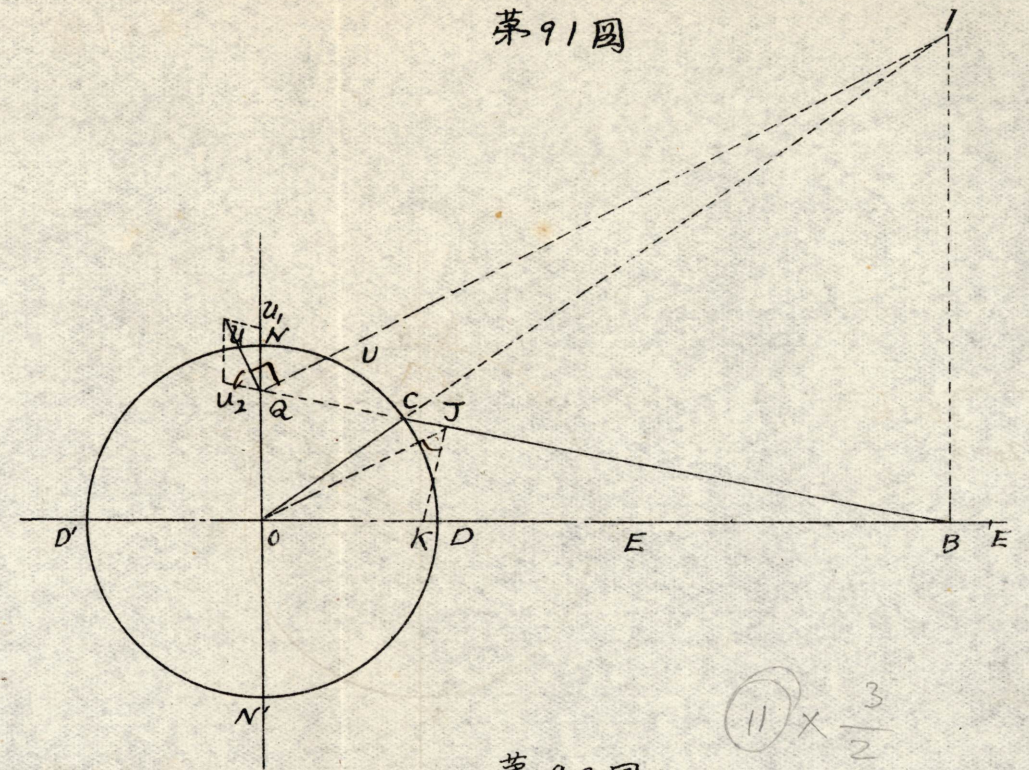


第90圖

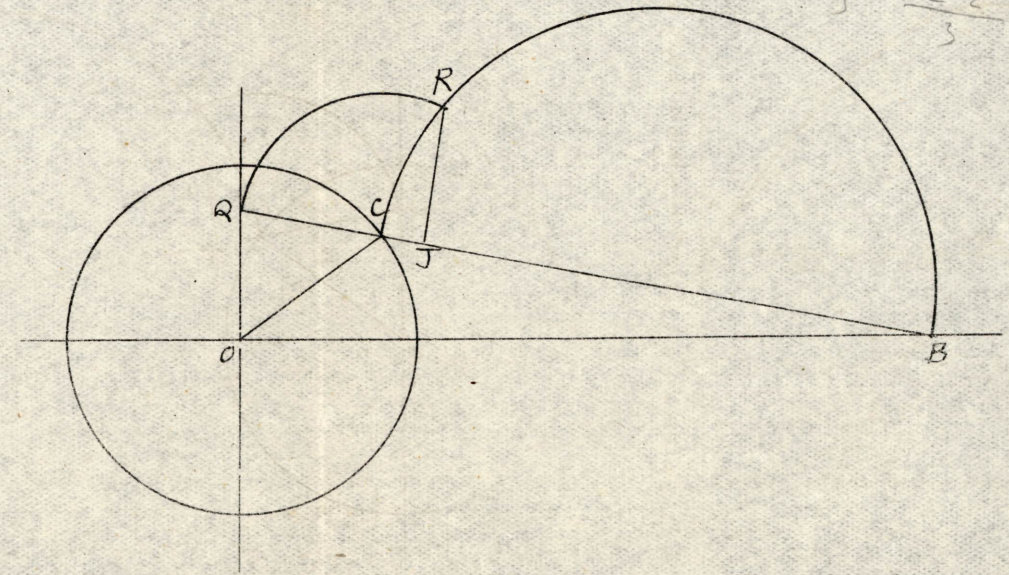
Curves of Velocity and acceleration of the piston  
( $\gamma_c = 1$ ;  $\frac{v_c^2}{r} = 1$  做假設)



第91圖



第92圖



$$11 \times \frac{3}{2}$$

$$11 \times \frac{2}{3} = \frac{22}{3}$$



整理 番号	
寄贈者 名	山本壯吉
贈日 寄年	43.5.25
連号 一番	4719