

Mechanical Circuits

MECHANICAL COMPONENTS ANALOGUS
TO THE ELECTRICAL COMPONENTS

Group F_B

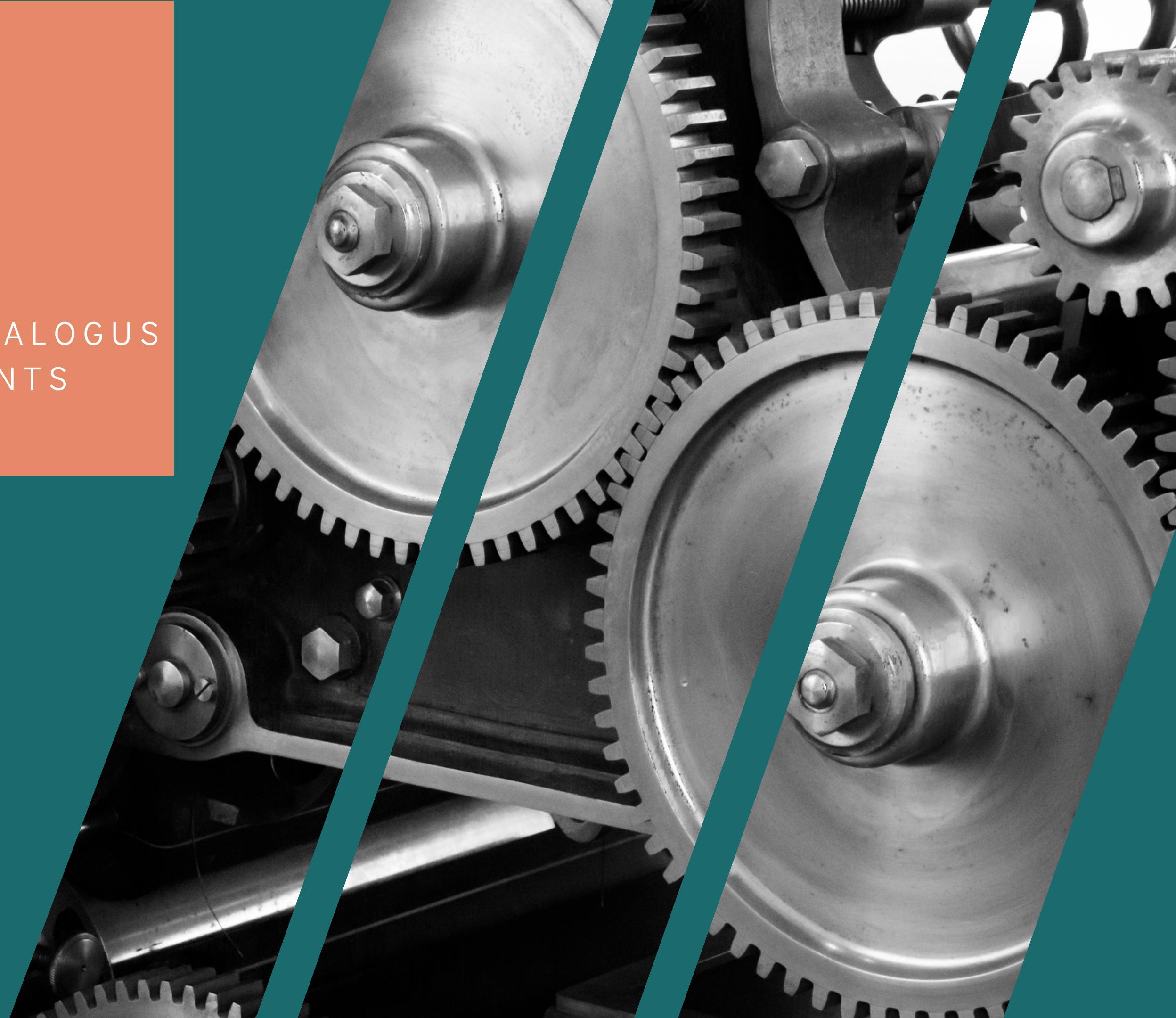
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Umang Raj

Zaheer Mohd Abass



Electrical

Current Flow



Mechanical

Moving belt

Battery



Spring energy

Switch



Push lock system for belt

Resistance



Internal friction between
pulley's

Components



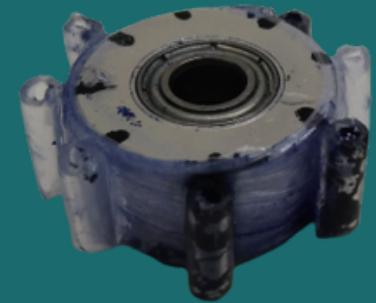
20 Teeth
Geared
Pulley(5mm
bore)



Shaft(5mm
dia)



Ball Bearing(5mm
inner dia)



Modified Geared
Pulley



Modified Switch



Springs (Expandable)



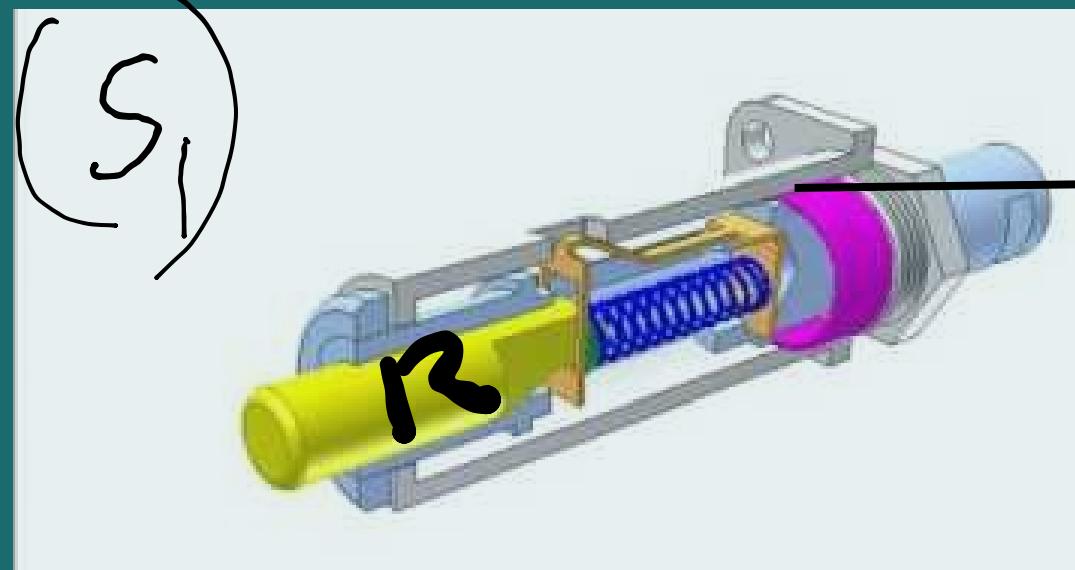
Belt

Switch mechanism

Analogy

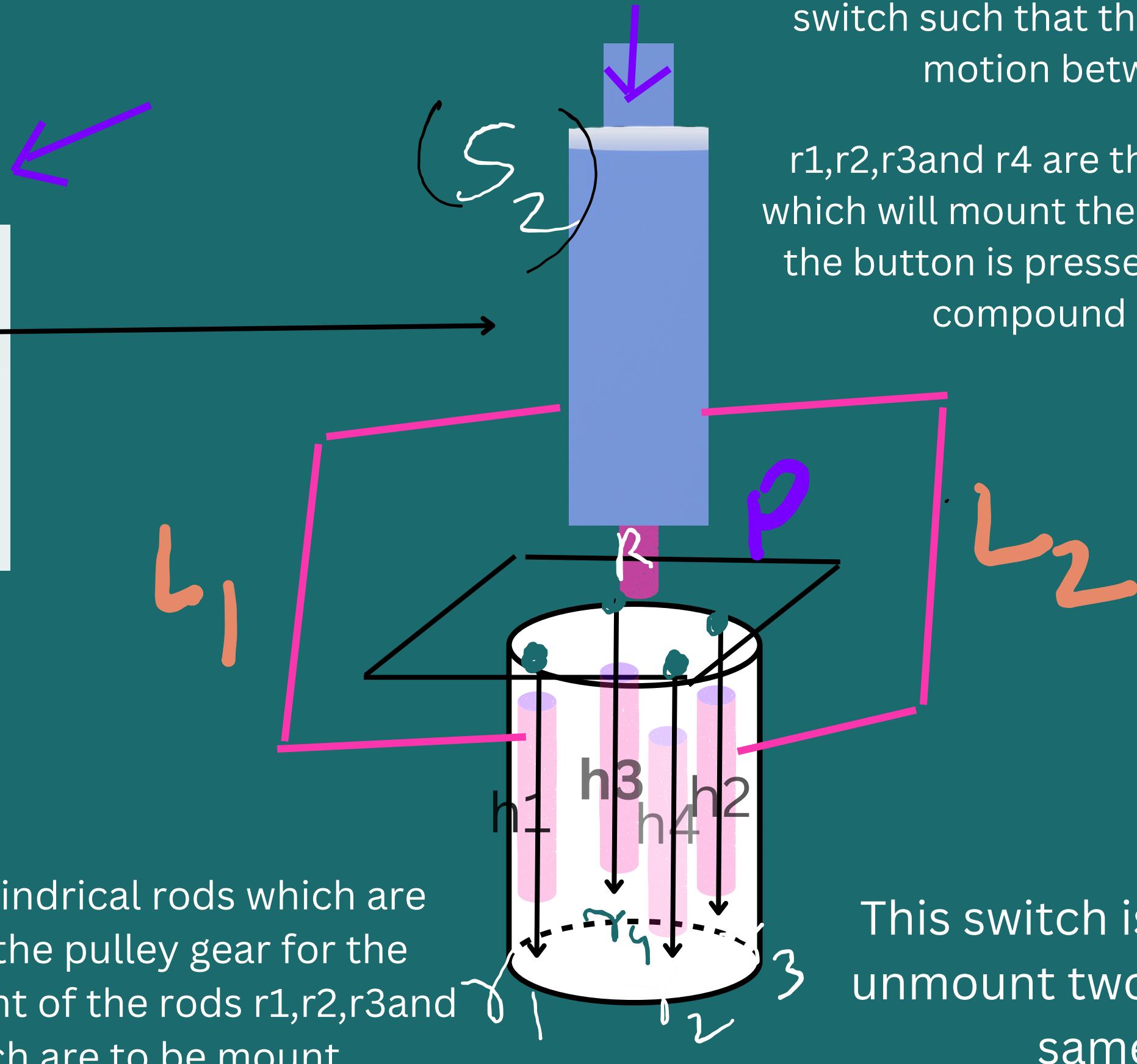
Normal position -> logic{1}

Pushed in -> logic{0}



p is plate which is attached with the R rod
L1 and L2 are the link which are fixed and attach the pulley with outer shaft of the switch such that there is not relative motion between them

r1,r2,r3and r4 are the connecting rod which will mount the two pulley as soon the button is pressed and it will be an compound gear train



h1,h2,h3 and h4 are the hollow cylindrical rods which are attached to the outer surface of the pulley gear for the constrained and attached movement of the rods r1,r2,r3and r4 along the pulley gears which are to be mount

This switch is to mount and unmount two pulley gear on same shaft

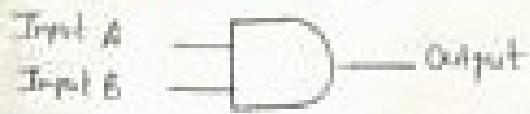
Battery mechanism

Compound pulley gear train
which transfer the motion to the
main circuit

Pulling of this thread
results in expansion of spring
which is analogous to charging
of the battery



AND gate



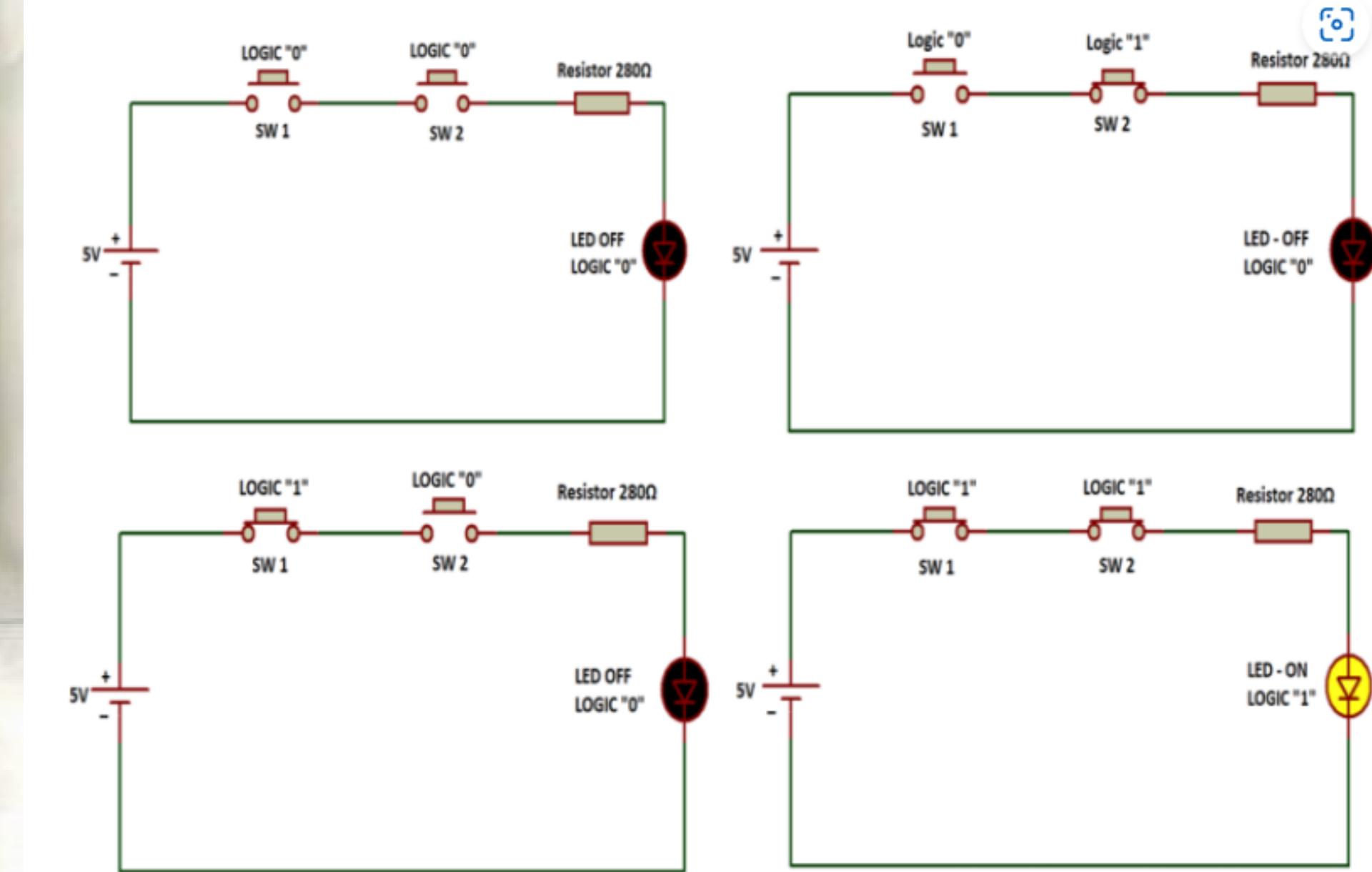
A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1

NOT gate

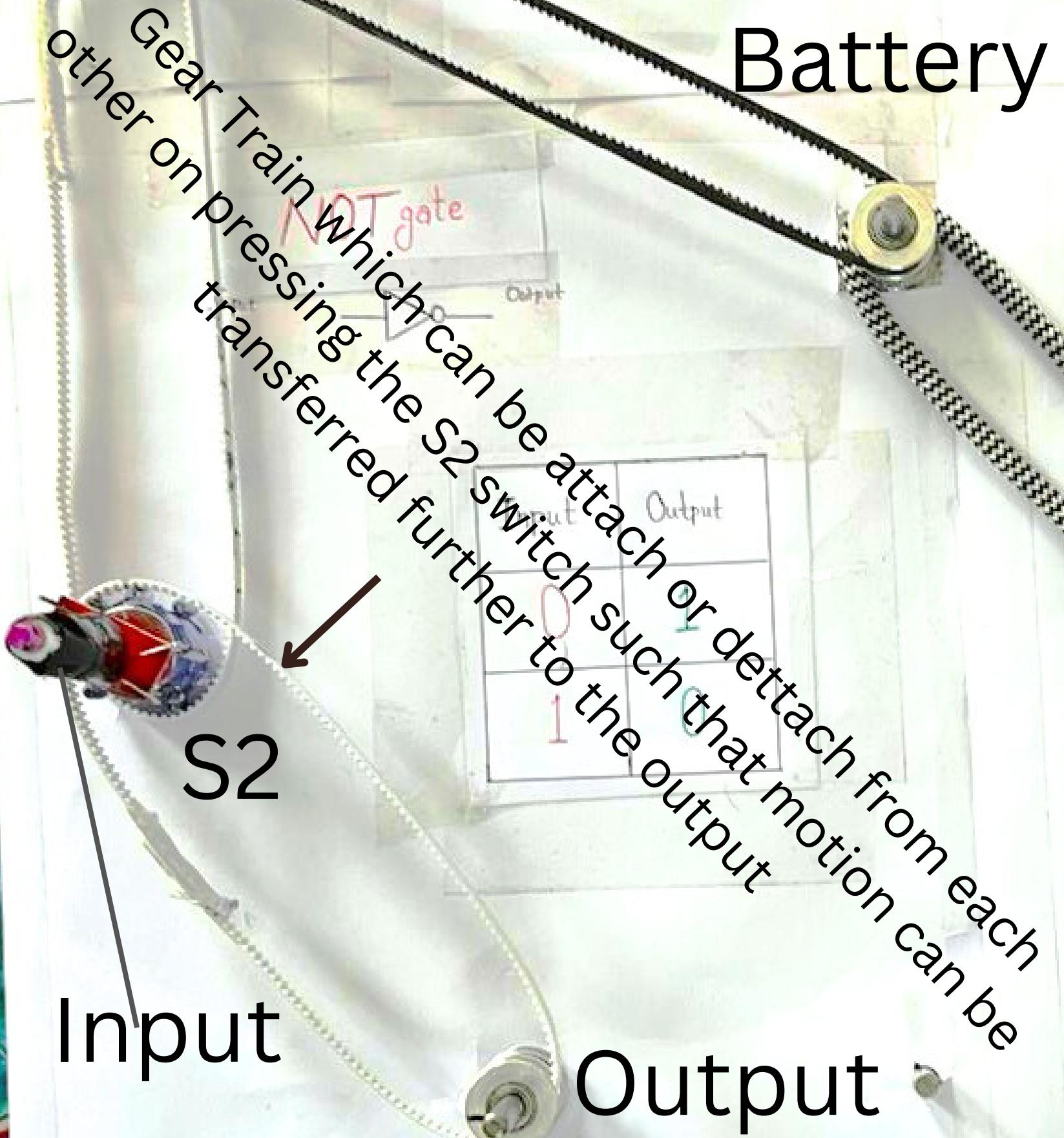


Mechanical Electrical

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Mechanical



Battery

Gear Train which can be attach or detach from each other on pressing the S2 switch such that motion can be transferred further to the output

S2

Input

Output

280 Ω

Electrical

5V

"0"

LED ON
"1"



280 Ω

"1"

LED OFF
"0"

