

BASIC PNEUMATIC CONTROLS

November 1, 1993

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1. Thermostats

Simple thermostats
Pilot Thermostats
Remote bulb Thermostats

Direct acting stats--Temperature rise = press rise
Reverse acting stats--Temperature rise = press falls

2. Valves

Normally open
Normally closed
3/way valves--Bottom port is normally open
Balanced valves
Types of throttling discs.

3. Damper motors.

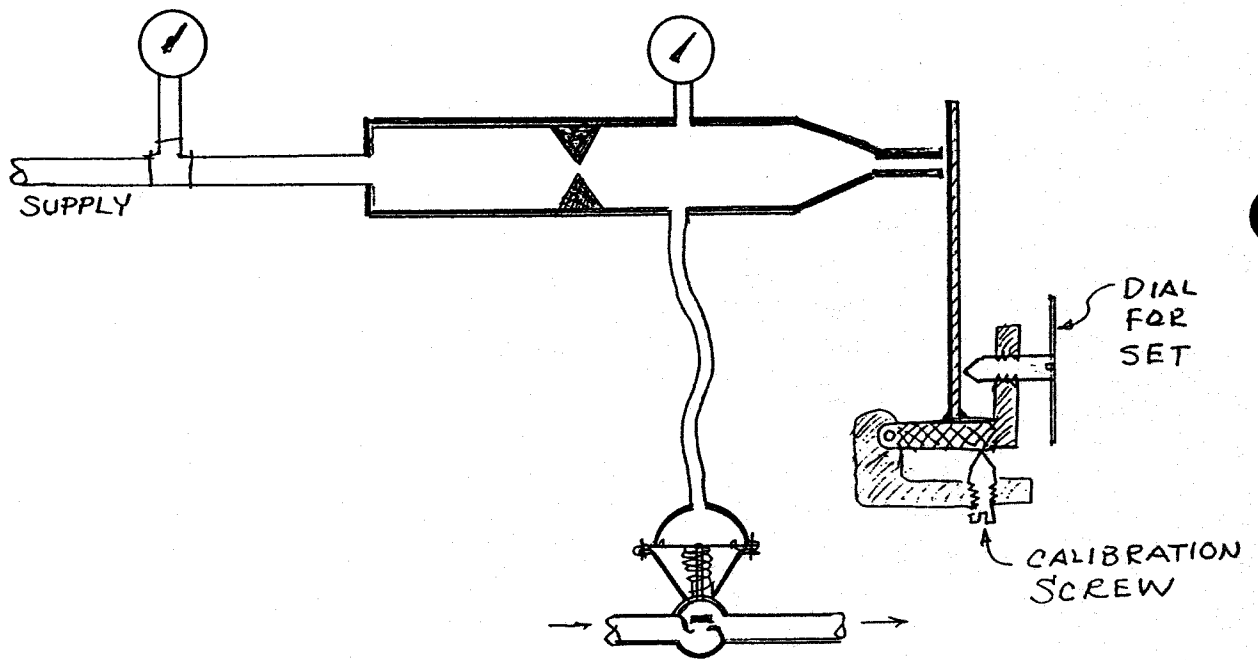
4. Relays

EP valves--solenoid valves
PE switches--pressure switches.
Amplifying--to increase control air volume
Reverse acting--reverse a signal
Switching
Highest pressure--passes on the highest pressure
Minimum pressure--minimum or higher pressures.
Pilot positioners--insures travel on valves or dampers.

5. Sequence for an AHU.



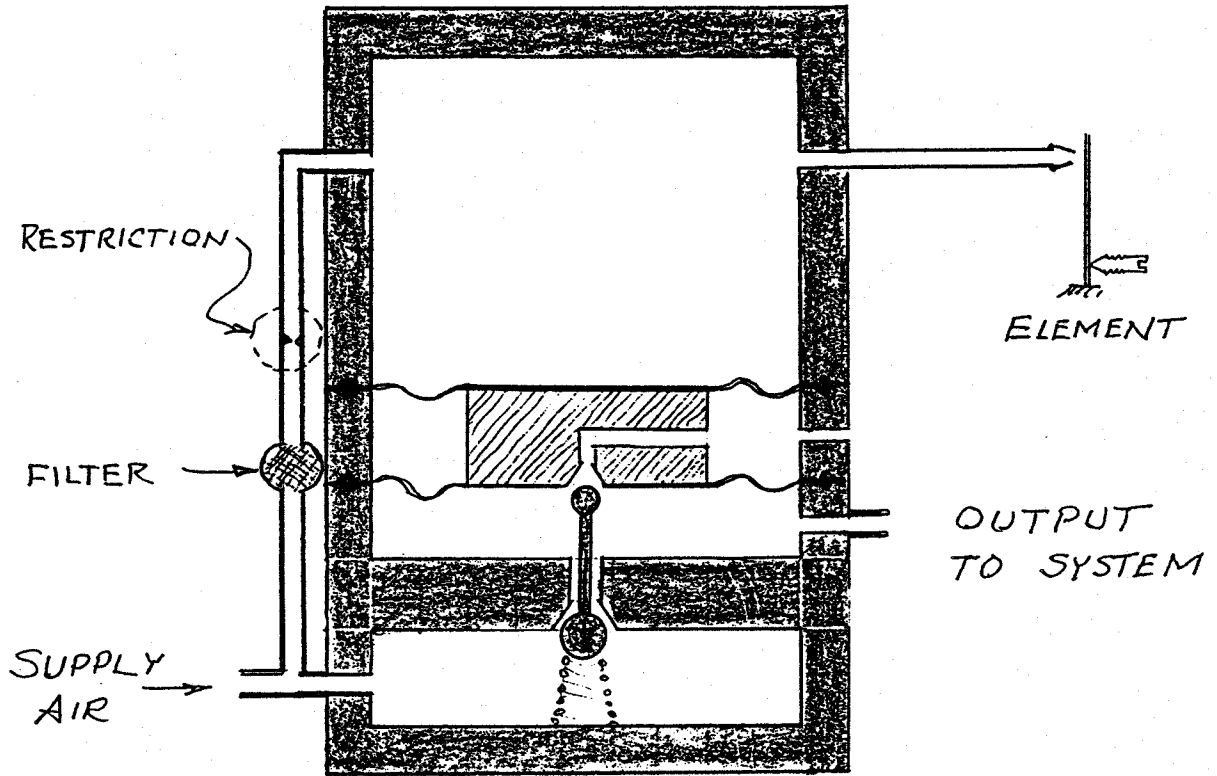
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SIMPLE THERMOSTAT
(BLEED TYPE)



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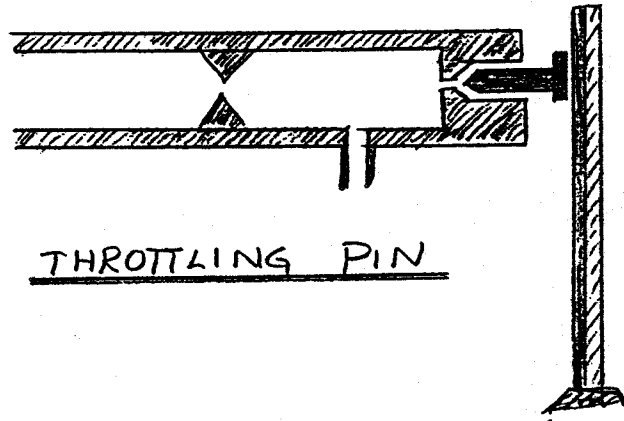


PILOT THERMOSTAT

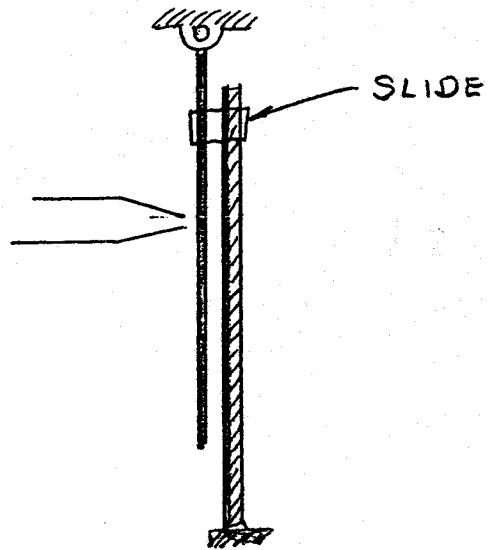


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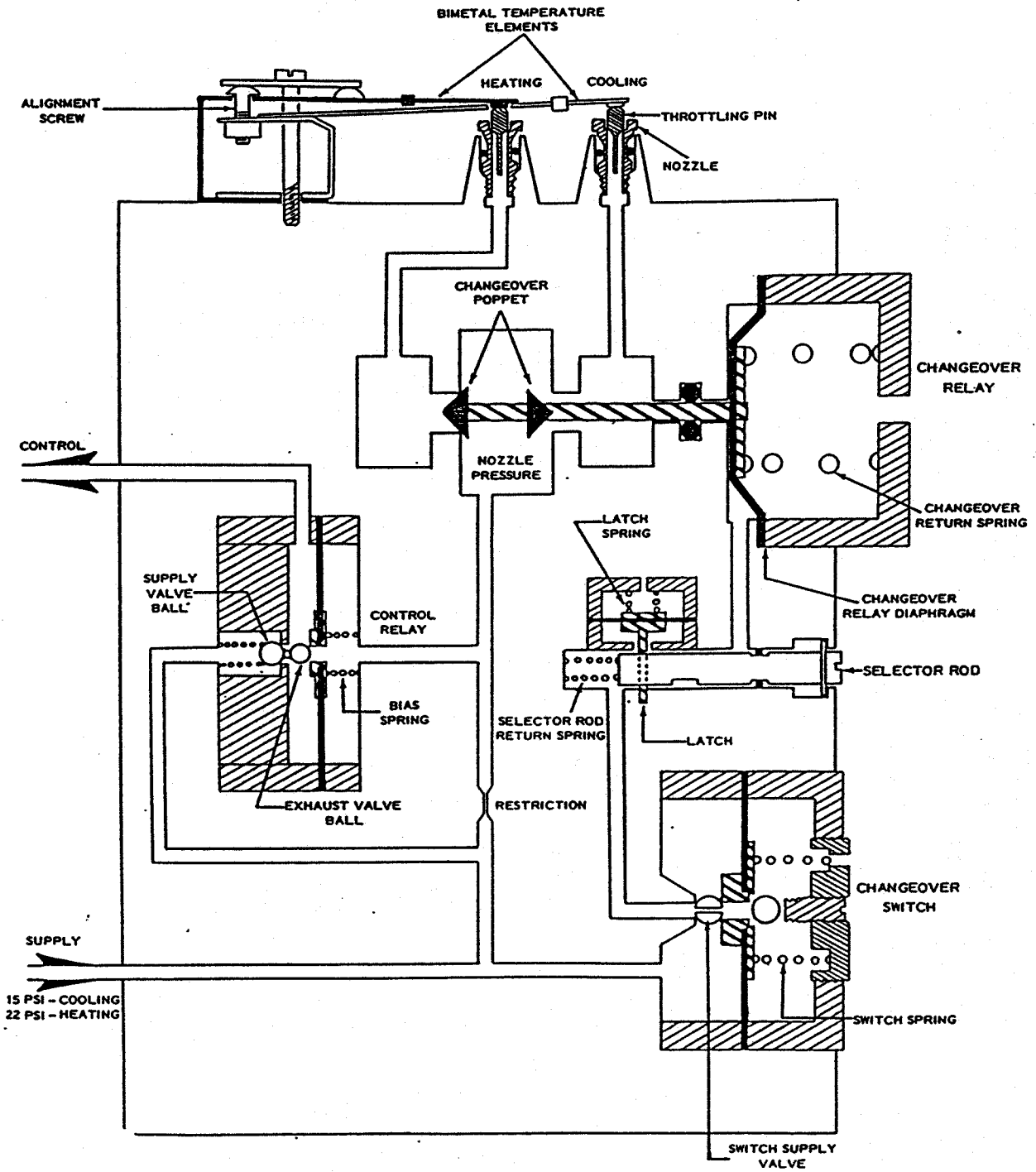
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THROTTLING PIN



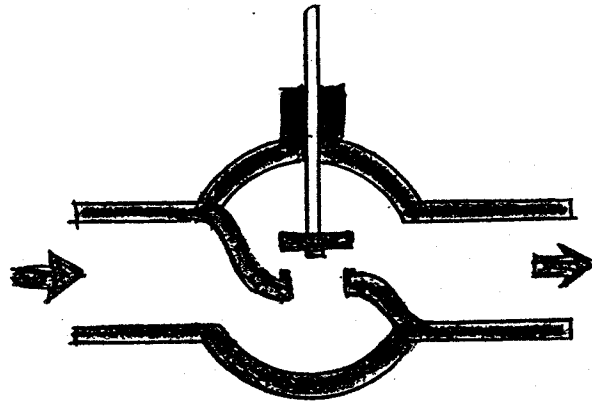
SENSITIVITY LINKAGE



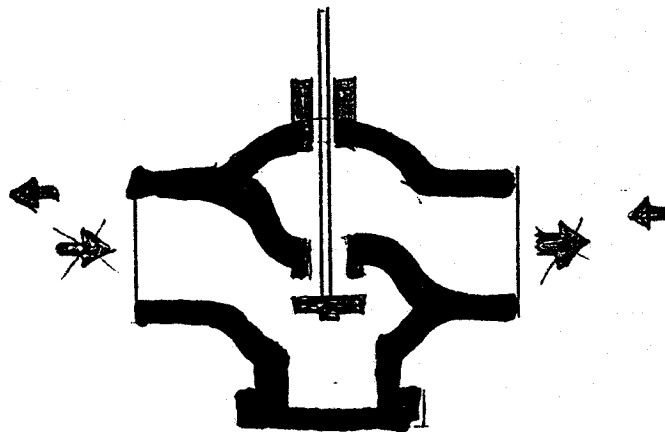


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NORMALLY OPEN (D.A.)

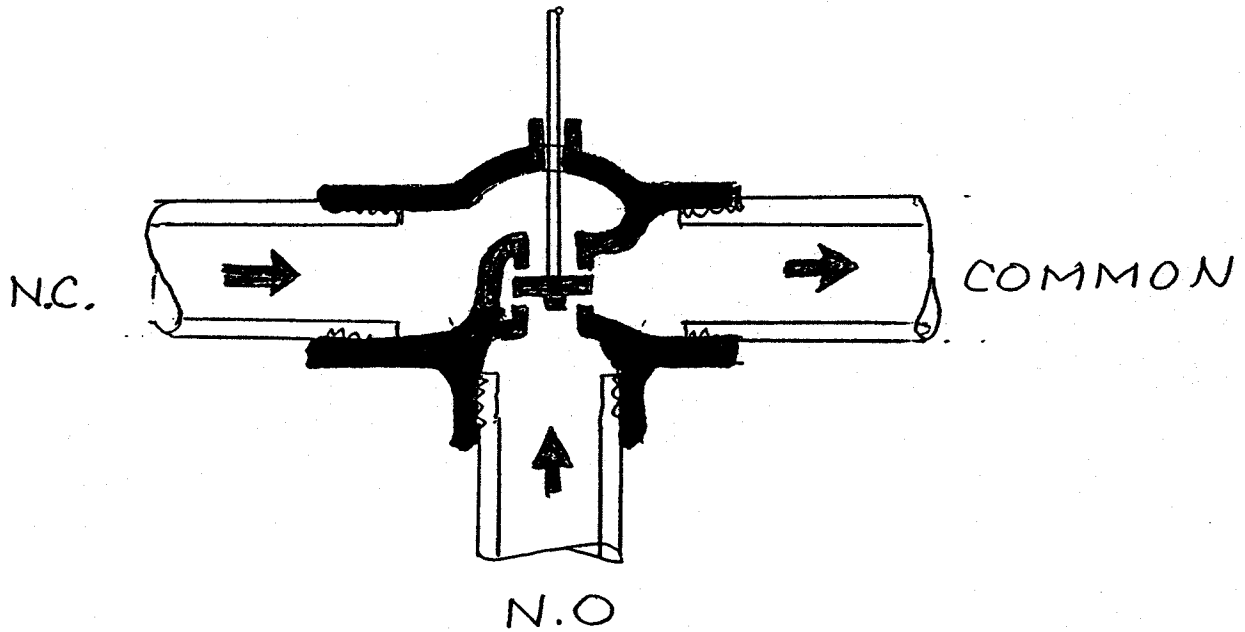


NORMALLY CLOSED (R.A.)

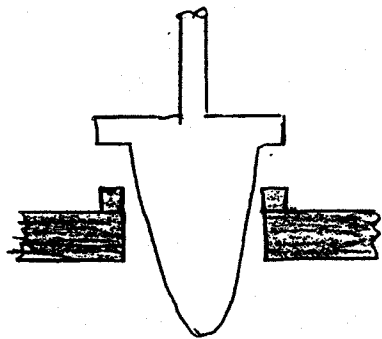


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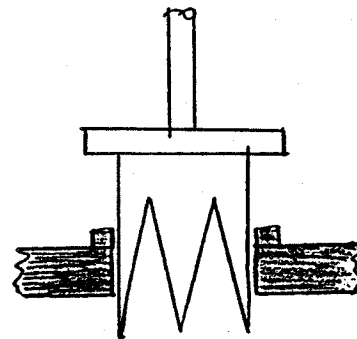
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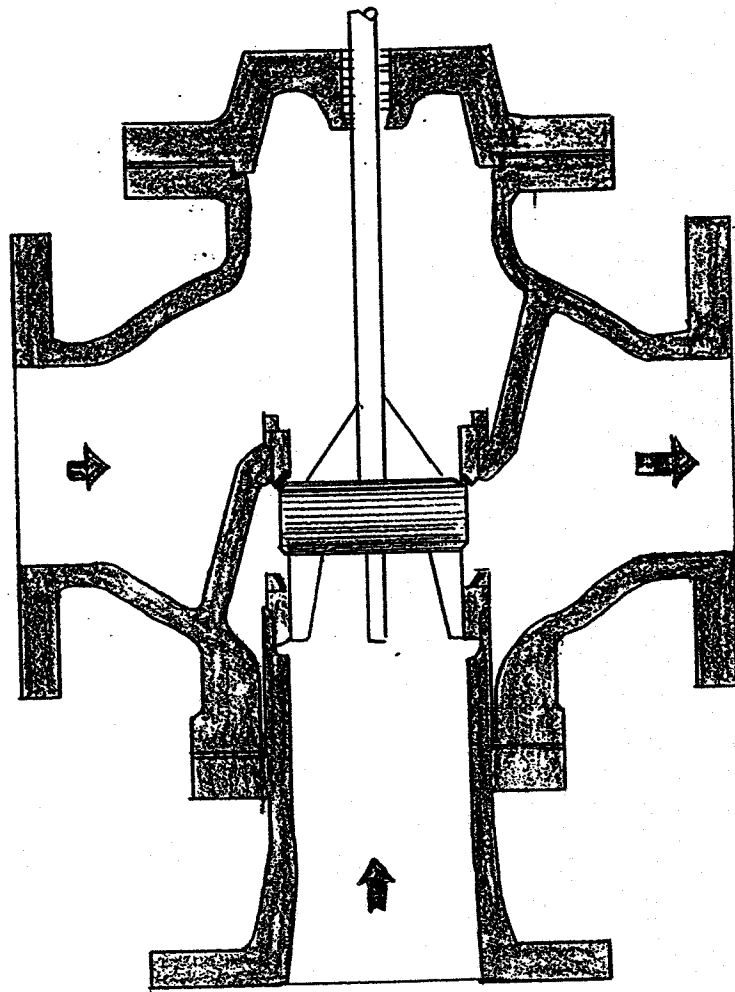
3/WAY MIXING VALVE



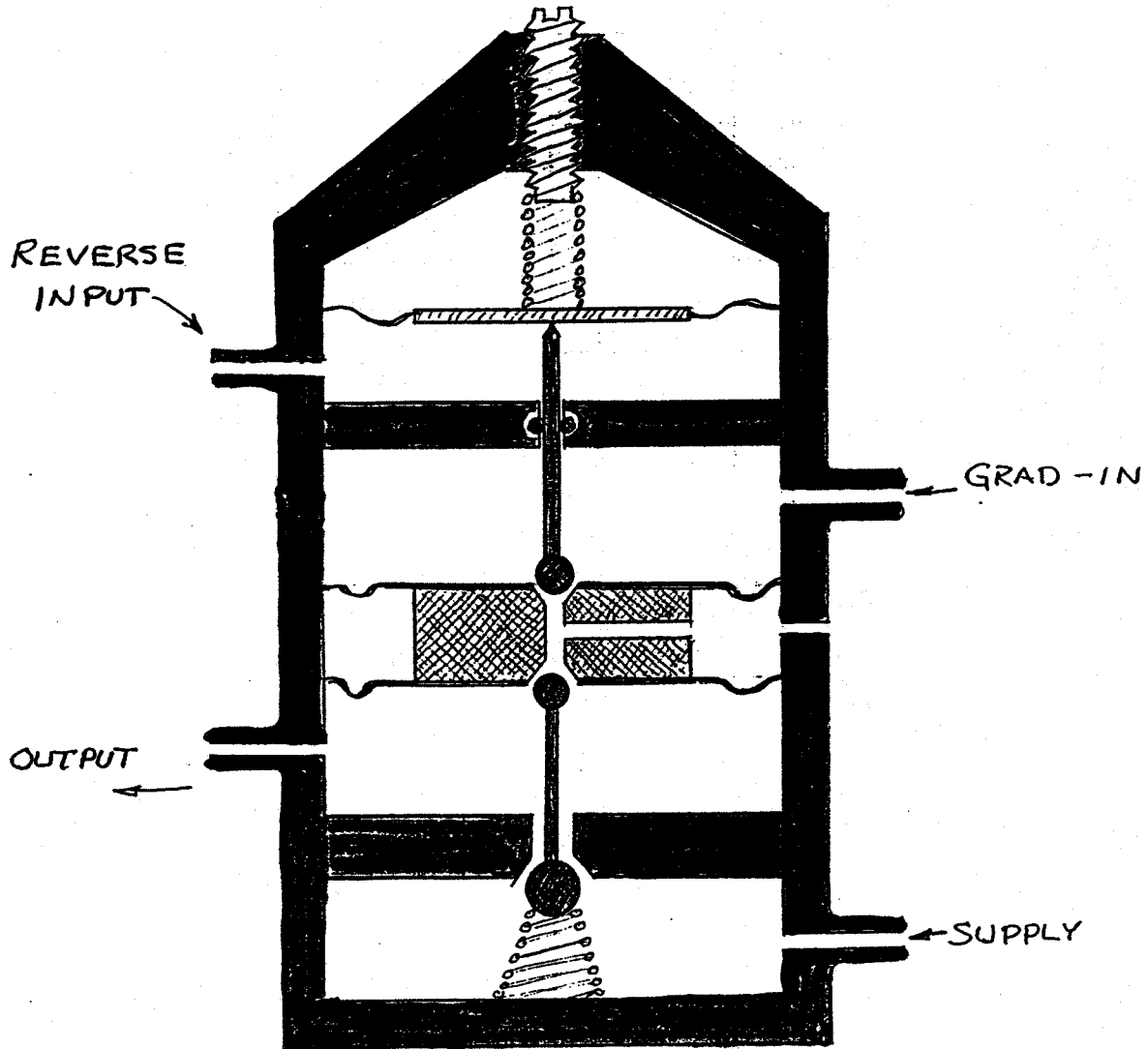
PLUG VALVE



V-PORT

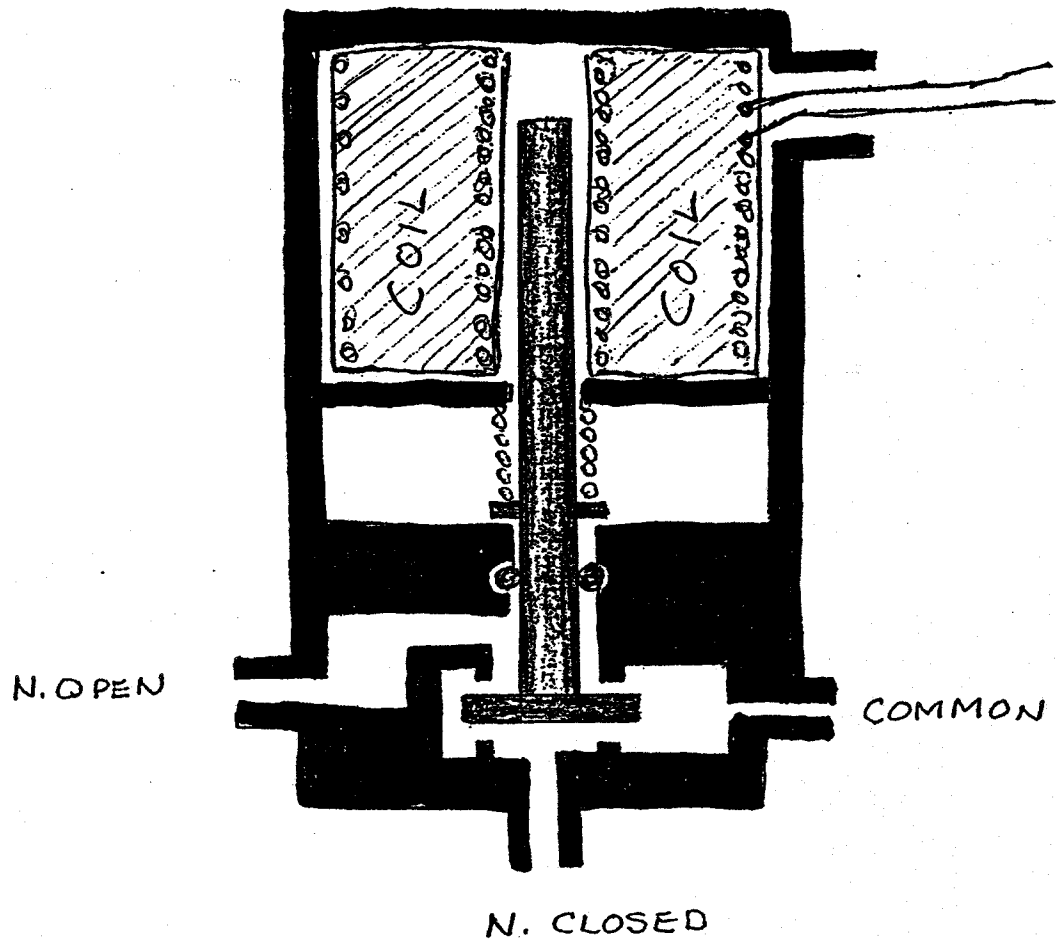


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MULTIPURPOSE RELAY

1. AMPLIFYING RELAY
2. ADVANCE - RETARD RELAY
3. REVERSING RELAY
4. MINIMUM PRESSURE.



E. P. VALVE



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