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LABORATORY WORK SHEET

Date: .....

Roll No: 229J5A0305 Name: E. Girish chandra

Exp No: 9 Experiment Name: Geneva mechanism

DAY TO DAY EVALUATION:

	Preparation	Algorithm / Performance in the Laboratory	Source Code / Calculations and Graphs	Program Execution / Results and Error Analysis	Viva voce	Total
Max. Marks	5	5	10	5	5	30
Obtained	4	4	4	4	4	20

Signature of Lab I/C

START WRITING FROM HERE:

Introduction :

The Geneva drive or maltese cross is a gear mechanism that translate a continuous rotation movement into intermittent rotary motion, the rotating drive wheel is usally equipped with a pin that reaches into a ~~shaft~~ slot located in the other wheel (driven wheel) that advances it by one step at a time

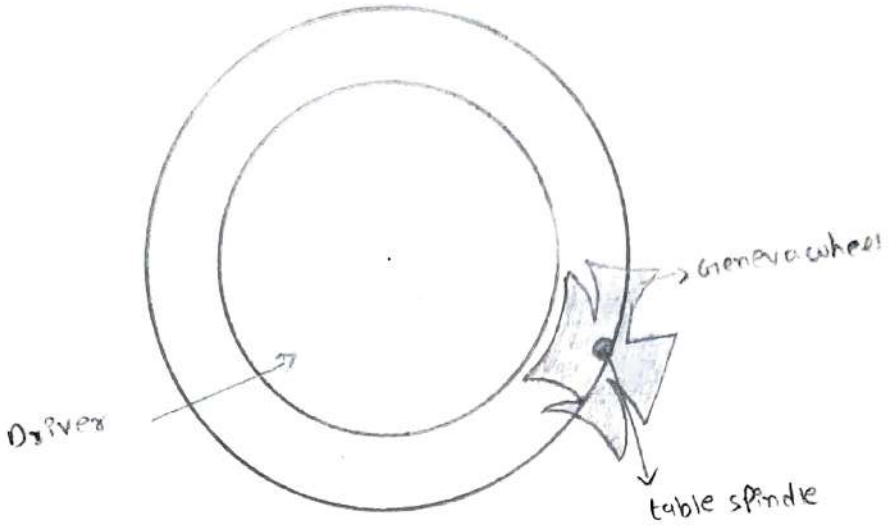
Classification of Geneva mechanism :-

1. External gear mechanism :-

In this type of mechanism, the Geneva cross is connected with cam drive externally which is most popular and can withstand higher mechanical stresses the dinner grooves locks the driven wheels pins during dwell during movement the driver pin with the driver wheel slot.

2. Internal Gear mechanism :-

In this type of mechanism the geneva cross and cam drive are connected internally in the closed box. The duration of dwell move then 180° of driver rotation.



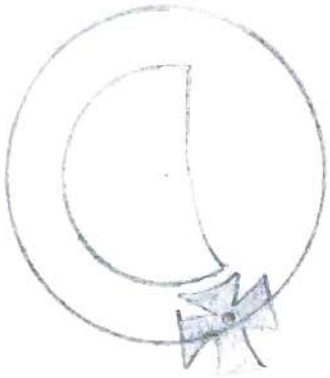
3. Spherical Geneva mechanism:

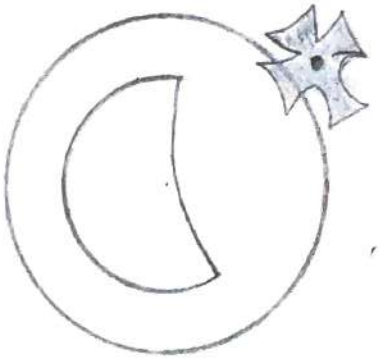
In this type of mechanism, the geneva cross is in spherical shape and cam drive is connected in exteranaly which is extremely rare the driver and driven wheel are on Perpendicular shafts the duration of dwell is exactly 180° driven rotation.

Working of Geneva mechanism:

In the most common arrangement the driven wheel has four sides slots and thus advances by one step of 90° for each rotation of the drive wheel. If the driven wheel has n slots it advances by 360° per n' full rotation of the drive wheel.

Geneva are also combined with varsety of other mechanism such as four bar linkages, Clutch boake combination, non-circular geass etc. to modify the motion curves and dwell rotation ratios obtained from Pure Geneva.





Advantages of Genera mechanism:

a) Geneva mechanism may be the simplest and least expensive of all intermittent motio mechanism.

b) They come in a wide variety of sizes, Ranging from those used ~~for~~ instrument to those used in machine tools to index spindle carries weighing several tons.

c) They have good motion curves characteristics compared to rachets but exhibits more jerk (or) instantaneous. change in acceleration than before cam systems.

Disadvantages of Genera mechanism:

a) The Genera is not a versatic mechanism and produce jerk.

b) The ratio of dwell period to motion and also established once the no. of dwells per revolutions has been selected.

c) All Genera acclesation curves start and end with finite accleration and deaccleration.

Application of Genera mechanism:

a) It is applicable in the Boduction Industries and automobile industries for mass Boduction.

b) modern film Bosections may also use on electronically controlled indexing mechanism which allows for forwading of the fim.

c) Indexing table is assembly lines, tool changes for CNC. machines and so on.