



MIND'SPARK

News Letter

Department of Mechanical Engineering

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InFocus: Scientist: Nicolas Joseph Cugnot (1725-1804)

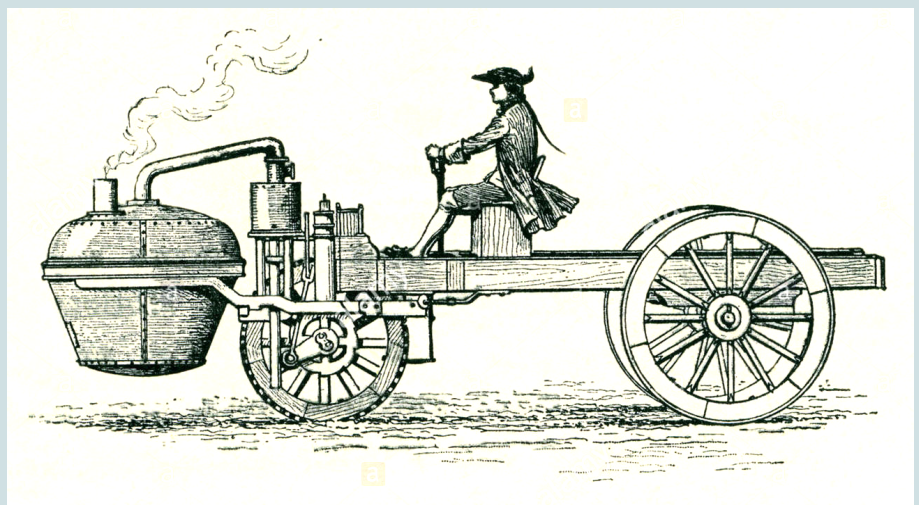


The automobile as we know it today was not invented in a single day by a single inventor. Rather, the history of the automobile reflects an evolution that took place worldwide, a result of more than 100,000 patents from several inventors. And there were many firsts that occurred along the way, starting with the first theoretical plans for a motor vehicle that had been drawn up by both Leonardo da Vinci and Isaac Newton. However, it's important to bear in mind that the earliest practical vehicles were powered by steam.

In 1769, the very first self-propelled road vehicle was a military tractor invented by French engineer and mechanic, Nicolas Joseph Cugnot. He used a steam engine to power his vehicle, which was built under his instructions at the Paris Arsenal.

The steam engine and boiler were separate from the rest of the vehicle and placed in the front. It was used by the French Army to haul artillery at a whopping speed of 2 and ½ mph on only three wheels. In 1771, Cugnot drove one of his road vehicles into a stone wall, giving the inventor the distance honour of being the first person to get into a motor vehicle accident.

Unfortunately, this was just the beginning of his bad luck. After one of Cugnot's patrons died and the other was exiled, funding for Cugnot's road vehicle experiments dried up 241 years later, in 2010, a copy of the "fardier de Cugnot" was built by some of the pupils of the Arts et Métiers ParisTech, a French Grande école, and the city of Void-Vacon.



EVENTS

S No	ROLL NO	NAME OF THE STUDENT	NAME OF THE EVENT	Location	MONTH & YEAR
1	160717736010	S Ajay Kanth	37th Senior National Rowing Championship	Pune	Dec 2018
2	160716736013	Choragudi Arun	2nd international conference on paradigms in engineering and technology	MCET	Dec 2018
3	160717736010	S Ajay Kanth	77th ARAE - FEARA Rowing Championship	Pune	Jan 2019
4	160716736024	Anil Panchal	Workshop on automobile and IC engine design	IIT-HYDERABAD	Jan 2019

AutoCAD CERTIFICATION

On 25/01/2019, 12 students from our college applied and passed the Autodesk User Certification by appearing for the online test conducted in CAD/CAM Lab of Mechanical Department, MCET. The test was conducted through certipoint.com in coordination with VIMIT. Questions ranged from objective, matching the entries to those requiring the students to use their AutoCAD skills to draft & enter distances between certain points. We are working further on partnering with Autodesk for future certification. Interested students may contact the undersigned.

List of all the students who cleared the test

S No	Hall Ticket No.	Name of Student	Result
1	160716736049	Abdul Mohsin	Passed
2	160716736058	Khaja Momnunnudin	Passed
3	160716736066	Nabeel	Passed
4	160716736074	Mujtaba	Passed
5	160716736076	Furqan Areeb	Passed
6	160716736078	Fardeen Ali	Passed
7	160716736082	Md Abdul Mannan	Passed
8	160716736084	Habeeb	Passed
9	160716736086	Syed Faizan Danish	Passed
10	160716736095	Mustafa	Passed
11	160716736096	Syed Saad	Passed
12	160716736320	Syed Talib	Passed

CREATIVE CORNER

TARANA (DUAIYA)

BY : A. T. MOHAMMED YAKOOB (ASAD)

Patta Patta Yahan Lahlahata Rahe
Har Parinda Yahan Chahchahata Rahe
Mera Hindustan Jagmagata Rahe

Des Mein Ab Kisi Ko Koi Gham Na Ho
Ab Kisi Maa Ka Aanchal Kabhi Nam Na Ho
Mera Hindustan Muskurata Rahe

Is Ke Parbat Yonhi Sar Uthaye Rahein
Is Ki Dharti Mein Gauhar Samayein Rahein
Mera Bharat Yonhi Sab Ko Bhata Rahe

Eteqadat Par Na Fasadat Hon
Mulk Se Qatm Ab Imteyazat Hon
Apna Haq Ab Har Ek Fard Pata Rahe

Koi Tendulkar Sania Ho Koi
Koi Satya Bane Saina Ho Koi
Bachcha Bachcha "Asad" Gul Khilata Rahe

CADiMate Interactive Models

Prepared by: Srikanth Rangal, Assistant Professor, Dept of Mech. Engg., MCET

Courses benefitted: Kinematics of Machines | Dynamics of Machines | Machine Design

Software used: Onshape Cloud CAD. Recently acquired by PTC - Parametric Technologies Corporation, The company that developed Creo

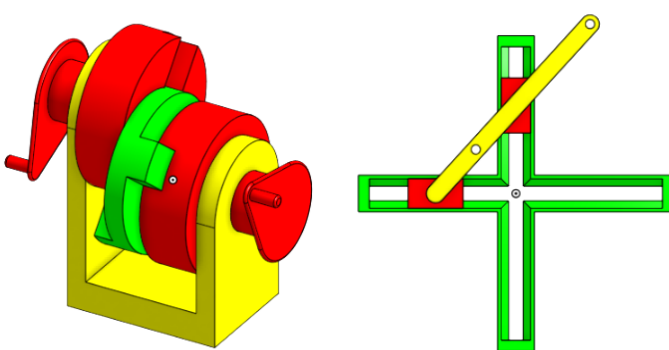

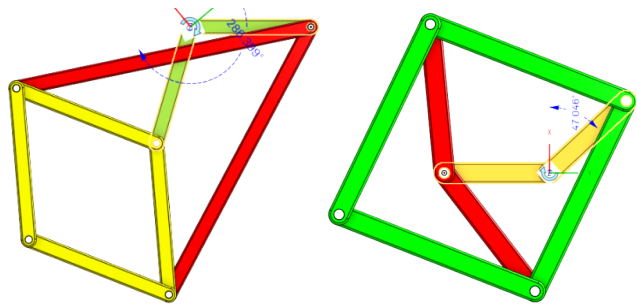

Book referred: S S Rattan (The design & geometric dimensions were chosen suitably.)

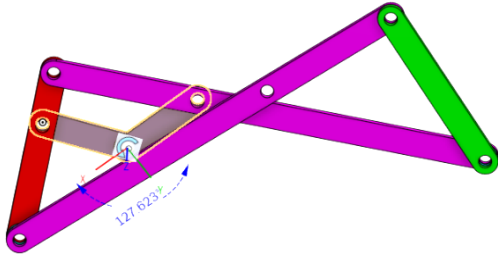

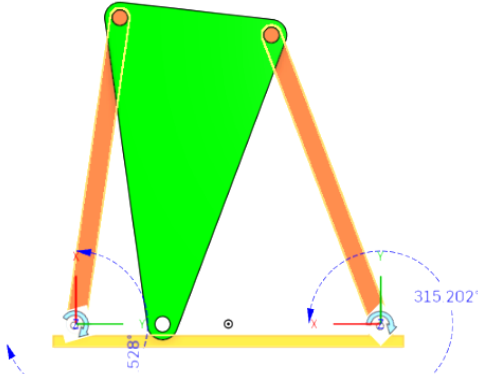

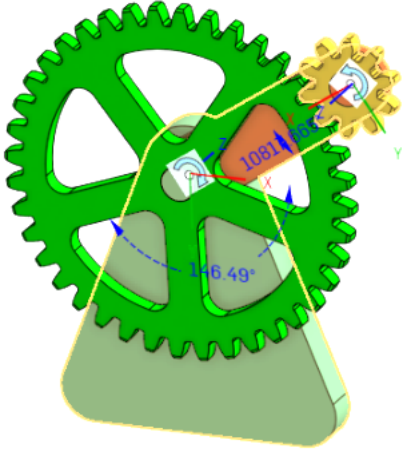

Features / Facilities: Students will be able to carry out below-mentioned activities on the 3D model.

1. Motion Analysis/visualisation of constrained mechanisms through animation.
2. The constraints are developed in accordance with the subject taught (Kinematics of Machines) unlike other CAD Packages like Solidworks, CATIA, Unigraphics, AutoCAD, Inventor, Pro/E or Creo Pro etc... which use constraint based assembly design.
3. Variation of Link dimensions to analyse how it would affect the motion.
4. Changing of the fixed-frame to obtain different inversions & analyse their motion.
5. Designing useful machines on top of the mechanism structures & target solutions to suitable problems.
6. Obtain the drawings of the parts with dimensional & tolerance information for fabrication.
7. Manufacture or Fabricate the mechanisms using suitable materials (preferably bio friendly).
8. The files can be accessed easily through the link given below on any of the devices mentioned below:

Devices Supported:

1. **Smartphones / Tabs** running **iOS** (iPhone & iPad) or **Android** or **Chrome OS**
2. **Desktops / Laptops** running **Macintosh, Windows, Chrome OS** or any variety of **Linux** with Chrome or other such **supported Browser**.
3. Sharing the file to students on mobile devices through the link. (Requirements: Android or iOS smartphone or desktop/laptop with supported browser)

SI No	Name of the Working model	Picture	Description Link
1	Double Slider (3 Inversions & Oldhams coupling which overlaps one of the inversions)		bit.ly/3wqFn4H 
2	Straight Line Mechanism: Paucellar Mechanisms of 2 varieties		bit.ly/31FLGTH 

<p>3</p>	<p>Straight Line Mechanism: Harts Mechanism</p>		<p>bit.ly/3rHwxuU</p> 
<p>5</p>	<p>Roberts Mechanism</p>		<p>bit.ly/3wjqLUj</p> 
<p>6</p>	<p>Epicyclic Gear Train</p>		<p>bit.ly/3m8Qhai</p> 

Students too can participate in this program by modelling mechanisms, machines or individual parts & submit in the same format to Mr. Srikanth Rangdal. These models will be maintained in the department club in the name of the student who submitted & further improvements will be added as subsequent versions.

Department of Mechanical Engineering

VISION

To be a reputed centre of excellence in the field of Mechanical Engineering by synergizing innovative technologies and research for the progress of society.

MISSION

- M1:** To impart quality education by means of state-of-the-art infrastructure.
- M2:** To involve in training and activities on leadership qualities and social responsibilities.
- M3:** To inculcate the habit of lifelong learning, practice professional ethics and serve the society.
- M4:** To establish industry- institute interaction for stakeholder development