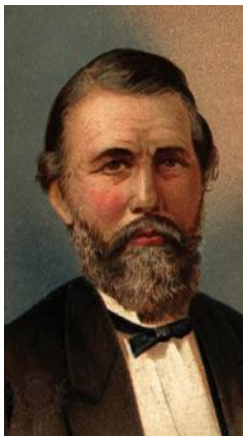
SCIENTIST OF THE MONTH:



RICHARD GATLING:

In 1861, Doctor Richard Gatling patented the Gatling Gun, a six-barreled weapon capable of firing a (then) phenomenal 200 rounds per minute. The Gatling gun was a hand-driven, crank-operated, multi-barrel, machine gun. The first machine gun with reliable loading, the Gatling gun had the ability to fire sustained multiple bursts.

INVENTING THE GATLING GUN:

Richard Gatling created his gun during the American Civil War, he sincerely believed that his invention would bring an end to war by making it unthinkable to use due to the horrific carnage possible by his weapons.At the least, the Gatling Gun's power would reduce the number of soldiers required to remain on the battlefield.The 1862 version of the Gatling gun had reloadable steel chambers and used percussion caps. It was prone to occasional jamming. In 1867, Gatling redesigned the Gatling gun again to use metallic cartridges - this version was bought and used by the United States Army.

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MECHANICAL ENGINEERING SOCIETY

DYNAMOS... THE FEW . THE PROUD

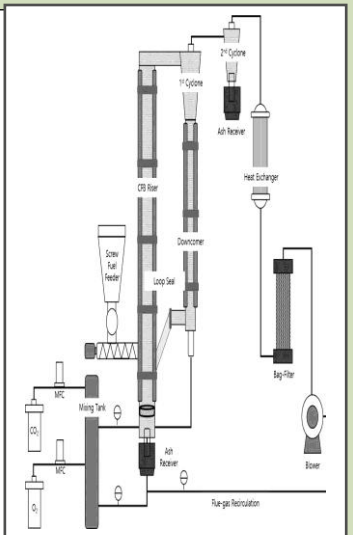
A NEWSLETTER OFMECHANICAL ENGINEERING DEPARTMENT

VOL-1 ISSUE-11 NOVEMBER-2016

EDITOR'S VOICE:

Fluidized bed combustion plants designed by researchers are known to generate lots of carbon dioxide, a greenhouse gas. This has led to development of carbon capture and storage (CCS) technologies to reduce emissions of carbon dioxide from fossil fuel combustion. Different types of carbon dioxide capture technologies include pre-combustion, post combustion and oxy-fuel combustion technologies. Oxy-fuel combustion technologies use oxygen combination greater than 95% purity level where recycled flue gas is utilized for combustion of fuel. The recycled flue gas is mainly carbon dioxide concentrated over 90% which is ready for sequestration without stripping of Carbon dioxide from the gas stream (*Buhre et al. Prog Energy Combust Sci. 2005*). Hence, oxy-fuel combustion technology for newly constructed and retrofitted waste sewage sludge-fluidized bed combustion plants would be ideal to generate high purity carbon dioxide in the flue gas.

'Oxy-fuel combustion at the range of 21% to 25% would be more beneficial to carbon capture and storage technologies and to operate for longer time period other than other cases in waste sewage sludge'.



Combustion characteristics of waste sludge atair and oxy-fuel combustion conditions in a circulatingfluidized bedreactor.

Contents

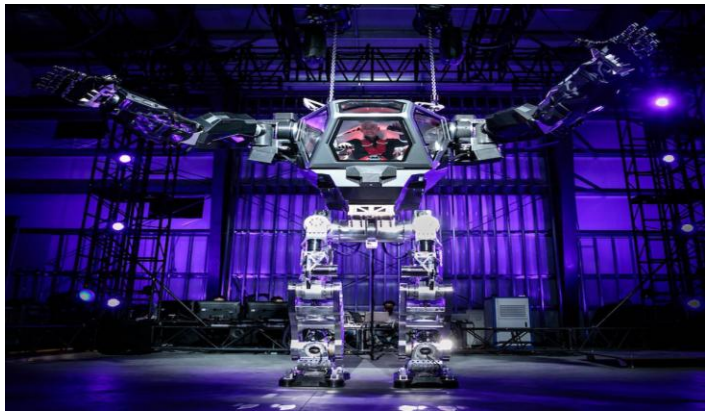
N. Venkata Sai Ram
Assistant Professor

ARTICLE OF THE MONTH :

(Watch Amazon CEO Jeff Bezos Control a Giant Mech Robot) :

Amazon CEO Jeff Bezos got to live out every 6-year-old's fantasy when he got behind the controls of a giant "mech" robot.

The Verge reports that Bezos tried out the 13-foot-tall (4 meters) robot yesterday (March 19) at his company's private Machine Learning, Home Automation, Robotics and Space Exploration (MARS) conference. Video of the bot, developed by Hankook Mirae Technology in South Korea, first surfaced in December in promotional clips. Live Science was skeptical of the robot's existence and functionality at the time.
But the new video reveals that the robot does, indeed, exist. However, it's far from clear how much the mech (a term for piloted, humanoid robots) can really do. Bezos flails the arms around using controls in the robot's torso cockpit, but the robot does not take any steps and is tethered to the ceiling, presumably for safety reasons. [The 6 Strangest Robots Ever Created] .



INVENTIONS :

RECENT INVENTIONS :

- Adjustable spanner - Edwin Beard Budding
- Backhoe loader - Joseph Cyril Bamford
- Cavity magnetron - John Randall and Harry Boot critical component for Microwave generation in Microwave ovens and high powered Radios (Radar)
- Carey Foster bridge - Carey Foster
- Electric transformer - Michael Faraday
- First coke-consuming blast furnace - Abraham Darby I
- First working universal joint - Robert Hooke
- Crookes tube the first cathode ray tubes - William Crookes
- First compression ignition engine aka the Diesel Engine - Herbert Akroyd Stuart
- Hydrogen Fuel Cell - William Robert Grove
- Modified version of the Newcomen steam engine (Pickard engine) - James Pickard
- Compound steam turbine - Charles Algernon Parsons
- Francis turbine - James B. Francis
- Gas turbine - John Barber (engineer)
- Microturbines - Chris and Paul Bladon of Bladon Jets
- The world's first oil refinery and a process of extracting paraffin from coal laying the foundations for the modern oil industry - James Young (1811–1883)[126]
- Pendulum governor - Frederick Lanchester
- Contributed to the development of Radar - Scotsman Robert Watson-Watt and Englishman Arnold Frederic Wilkins
- Internal combustion engine - Samuel Brown
- Fourdrinier machine - Henry Fourdrinier
- Microchip - Geoffrey W.A. Dummer

Two-stroke engine - Joseph Day

- Pioneer of radio guidance systems - Archibald Low
- Screw-cutting lathe - Henry HindleyThe first industrially practical screw-cutting lathe - Henry Maudslay
- The first electrical measuring instrument, the electroscope - William Gilbert
- Rectilinear Slide rule - William Oughtred