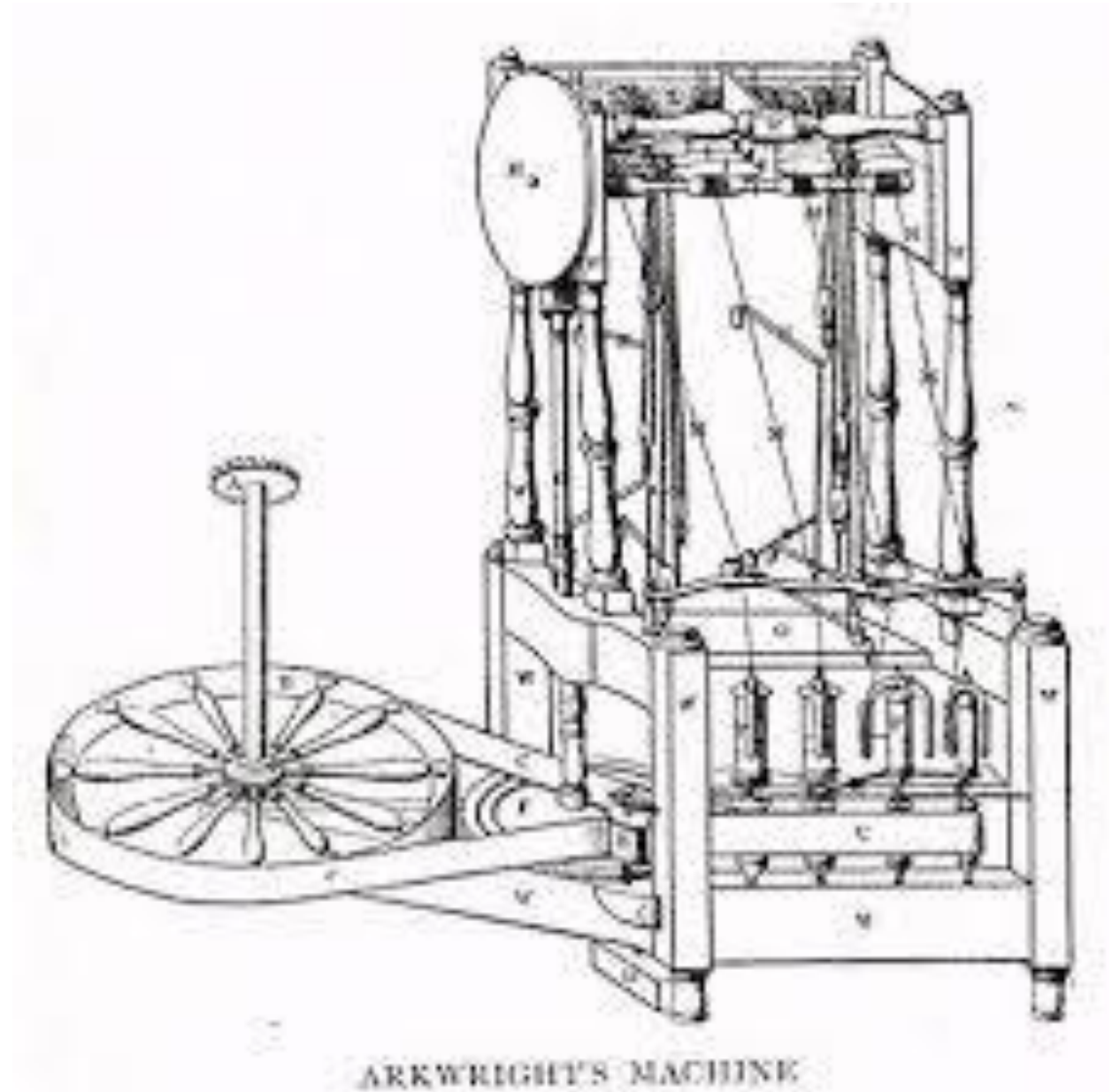


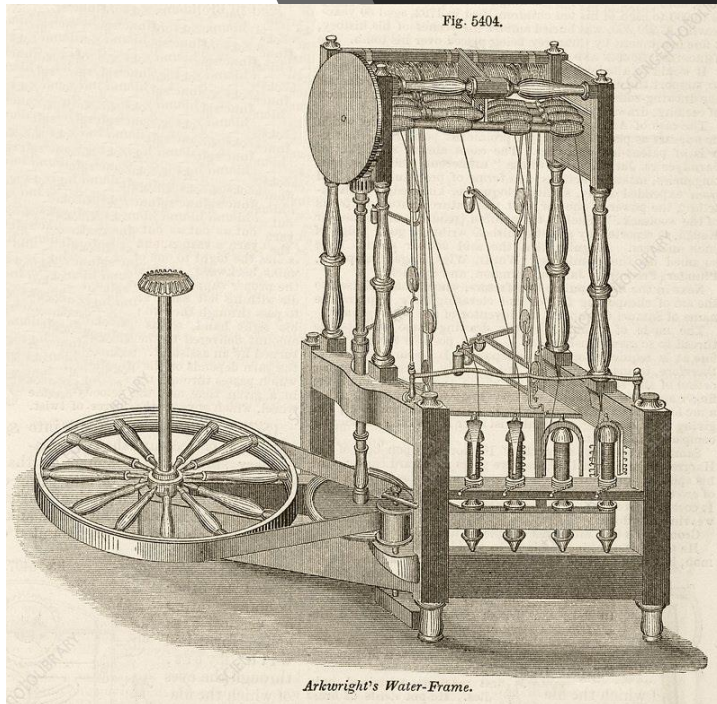
# The Water Frame, 1769

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By: Tyler



# About the Water Frame 1769



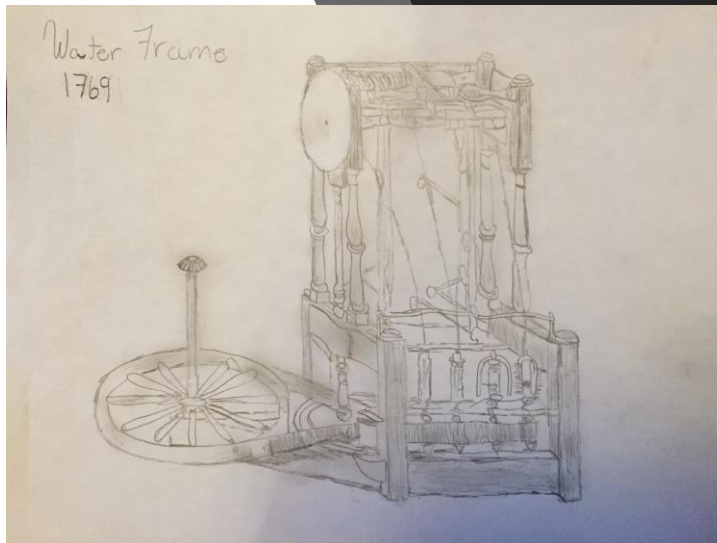
- The water frame was originally called the spinning frame, but in 1769 Richard Arkwright renamed the machine as the water frame when it became powered by water instead of horses. The water frame was the first fully automatic and continuously operating machine. The water frame made cotton into yarn, and it made stronger and large quantities of yarn than the spinning jenny.
- The water frame involved three sets of paired rollers that turned at different speeds. While these rollers produced yarn of the correct thickness, a set of spindles twisted the fibers firmly together. Arkwright's water frame not only changed the way that cloth and textiles were produced from raw materials like wool and cotton, but it also gave rise to the factory system.
- After he had built his factory in Cromford, Arkwright realized that he would need more people to work in it. Cromford was small, so there wasn't a lot of people to do the work he needed done.
- Arkwright decided to build cottages near the factory and brought people from the surrounding areas to come live in them and work for him. He encouraged families to move into the area and over 1,000 people decided to work in his factory. The machines did not require much skill which made it easier to employ lots of people.



- It provided more power than humans, so it reduced the amount of human labor.
- Later developments of the Industrial Revolution might not have occurred without it
- Powered by water, so it doesn't hurt the environment.
- Increase employment.
- High quality yarn.

Benefits of the water frame  
1769

# Problems with Water Frame 1769



The water frame required a watermill for power and had to be near large bodies of water or you would have to build a canal.

The water frame had to be placed in large buildings because of its size. This would be an expense.

It took women from their home, which separated family members and required long working hours.

Factory conditions and the facilities were terrible. The factories had poor ventilation. They didn't serve healthy food.

The water frame was noisy, so it could cause hearing loss.

Skilled workers could not compete with the pace of production.

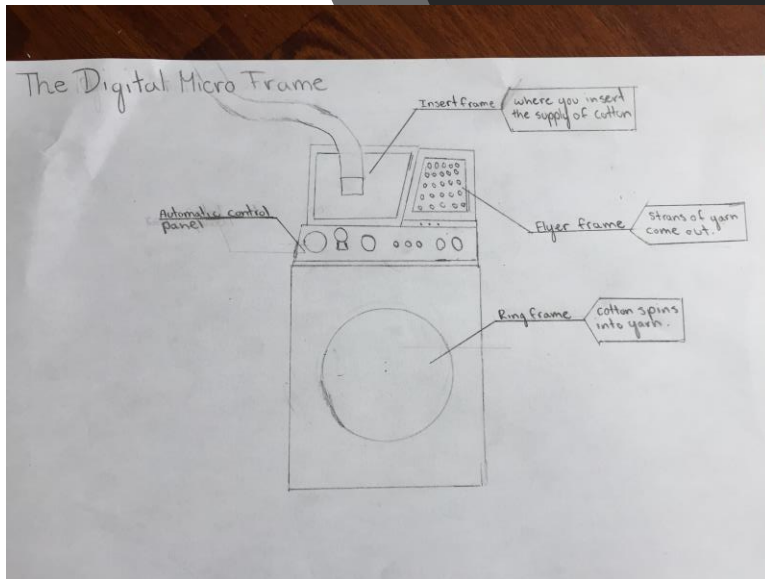
# Innovation today



- The spinning systems and yarn manufacturing machinery are continuing to become more automatic. Automation has made achieving quality easier, with electronics controlling operations, temperatures, speeds, twists and efficiency.
- Production will increase
- Recycling increases
- Job loss in the factory
- Create jobs in research and development. ( for the machine or fabrics)
- High levels of noise is common in textile factories, this causes hearing loss in many textile workers and can also cause sleeping disorders, changes in blood pressure and anxiety.

- <https://image.made-in-china.com/202f0j00KDaGvHoCaLkU/Factory-Price-Yarn-Spinning-Production-Line-Cotton-Carding-Machine-with-Chute-Feeder.jpg>

# The digital micro frame



- The micro frame will consist of three main parts, the insert frame, the ring frame and the flyer frame.
- This machine will use solar panels.(Enviromint friendly)
- My machine will be fully automatic. (faster and more efficient)
- The machine will be on the farms, so it will be connected to the cotton supply.
- The micro frame will simplify the process.
- My machine will be quiet
- Its small, so you can fit lots in the factory.

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