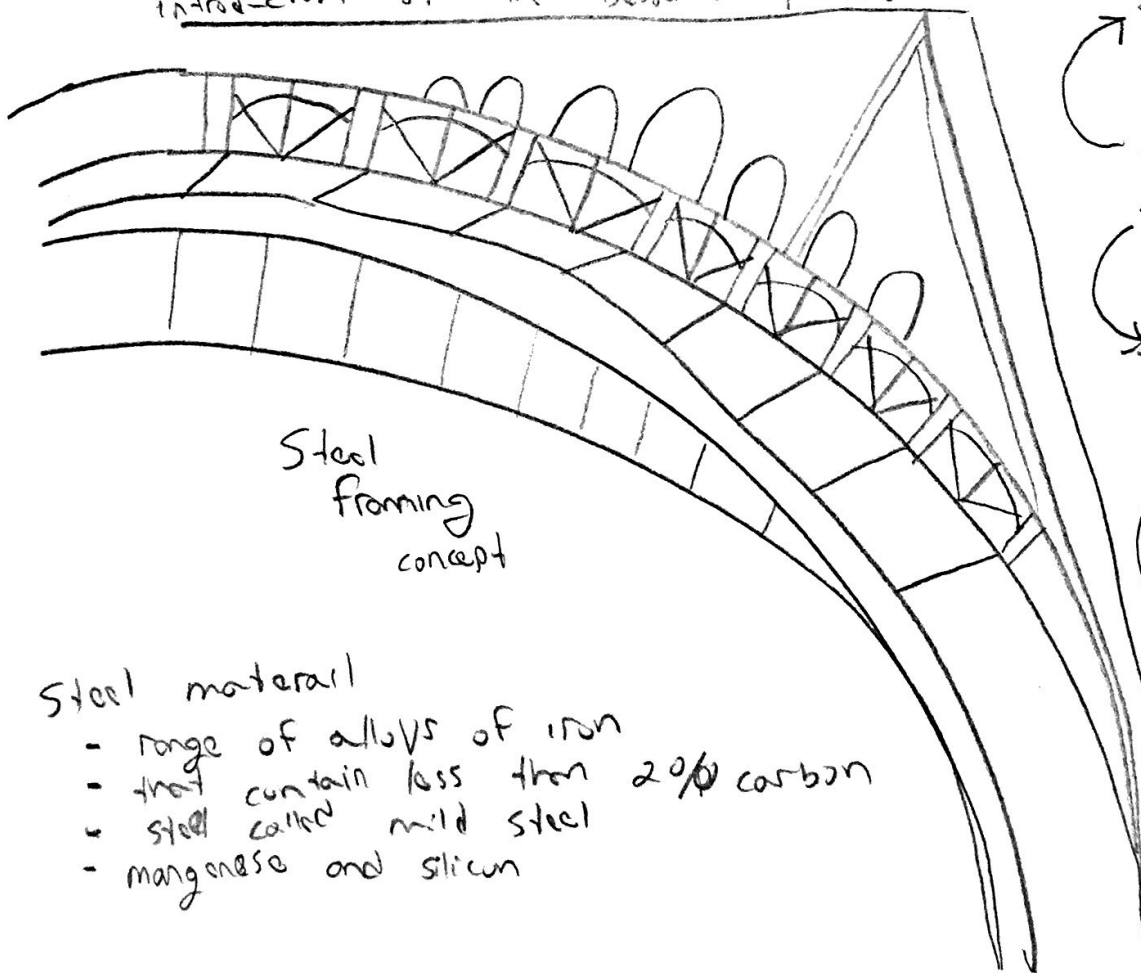


# • Steel

- Strong and stiff
- materials used for slender tower and spanning spans
- light when compared to strength
- Takes both tension and compression
- Downfalls: corrode in certain environments and a loss of strength in severe building fires.
- 19th century metals had little structural role in buildings except in connecting devices.
- Greeks and Romans used hidden cramps of bronze to join blocks of stone.
- Renaissance countered the thrust of masonry vaults with wrought iron chains and rods.
- Cast iron bridge, built in late 18th century. In England still standing.
- inexpensive introduction of steel first became available in the 1850s with the Bessemer process



Steel framing concept

## Steel material

- range of alloys of iron
- that contain less than 2% carbon
- steel called mild steel
- manganese and silicon

- iron + cast iron help architects make building taller.
- weren't limited anymore
- wood/masonry are different difficult build
- ings.
- tallest masonry building is 16 story
- walls can be thinner as steel is stronger than concrete.
- less labor.
- bigger window
- more light
- Transparency
- Eiffel tower is named after the engineer who had the same name