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JAIGARH FORT AND JAIVANA CANNON: ETHNOGRAPHIC ARMS AND ARMOUR

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ABSTRACT

The Jaivana Cannon was cast in 1720 during the reign of Maharaja Sawai Jai Singh II and is located at Jaigarh Fort in Jaipur. Considered the world's largest wheeled cannon at the time, it weighs 50 tons, has a barrel over 20 feet long, and was fired only once, reportedly with a charge of 100 kg of gunpowder. Although it was never used in battle, it remains a testament to the era's military engineering.

- Cast: In 1720 during the reign of Maharaja Sawai Jai Singh II.
- Location: Jaigarh Fort, Jaipur, India.
- Weight: Approximately 50 tons.
- Barrel length: 20.19 feet (6.15 meters).
- Diameter: 11 inches (280 mm).
- Features: Mounted on four wheels with roller pin bearings, allowing it to be turned 360 degrees. The barrel is decorated with carvings of trees, an elephant scroll, and birds.

KEYWORDS: Jaigarh Fort, Jaivana Cannon, Cannon Ball, Gunpowder.

INTRODUCTION

The largest cannon is a matter of definition, but the most prominent candidates are the **Jaivana Cannon** (largest wheeled cannon). Largest by specific categories.

Largest wheeled cannon: The Jaivana Cannon, located at **Jaigarh Fort** in Jaipur, India, is the world's biggest wheeled cannon. It weighs approximately 50 tons and is 20 feet long. It was cast in 1720 at the fort's own foundries. The Jaivana is the world's largest wheeled cannon, built in 1720 and located at the Jaigarh Fort in Jaipur, India. It weighs approximately 50 tons, is 20 feet long, and was cast by **Maharaja Sawai Jai Singh II** at the fort's own foundry. Although it was a marvel of engineering, it was never fired in battle.

The Jaivana cannon ball was fired from the Jaivana Cannon, a massive 18th-century cannon in Jaipur, India, which is considered the world's largest wheeled cannon. The cannon ball weighed approximately 50 kg and was fired only once, reportedly traveling about 35 kilometers after using 100 kg of gunpowder for the shot. **The Cannonball:** The ball weighed about 50 kg. The Gunpowder: Loading the cannon required a substantial charge of 100 kg of gunpowder. **The Firing:** The cannon was fired only once for testing purposes. **The Range:** The projectile travelled a claimed distance of about 35 kilometers 22 miles).

Figure-1: Jaigarh fort and Jaivana Cannon.

The Impact: Folklore suggests that the landing of the cannonball created a large depression, which eventually formed a pond.

- Weight: Approximately 50 tons.
- Length: 20.19 feet (6.15 meters).
- Diameter: 11 inches (280 mm).
- Creator: Maharaja Sawai Jai Singh II.
- Location: Jaigarh Fort, Jaipur, Rajasthan, India.
- Key fact: It was never used in a battle and is a historical monument today.

Figure-2: Cannon ball.

The Jaivana was manufactured during the reign of Maharaja Sawai Jai Singh II (1699–1743) at a foundry in Jaigarh. The cannon was fired only once, with a charge of 100 kilograms (220 lb) of gunpowder, and when fired was claimed to have covered a distance of about 35 kilometres (22 miles). It is said that the projectile fired from it made a small lake in Chaksu, though this is clearly an embellished legend and could not have physically happened. The cannon from the rear. The cannon is now located at the Jaigarh Fort, Jaipur, at 26°58′48.03″N 75°50′37.29″E.

The length of the barrel of the cannon is 6.15 m (20.2 ft) and it weighs 50 tons. The circumference near the tip of the barrel is 2.2 m (7.2 ft) and that of the rear is 2.8 m (9.2 ft). The diameter of the bore of the barrel is 28 cm (11 in) and the thickness of the barrel at the tip is 21.6 cm (8.5 in). The thickness gradually increases as one moves towards the rear of the barrel. The two thick rings on the barrel were used for lifting it with the help of a crane which, though incomplete, is still lying in Jaigarh. A 776-millimetre-long (30.6 in) elevating screw was used for raising and lowering the barrel. The barrel has floral design. An elephant rests on the tip of the barrel and a pair of peacocks are carved in the centre. A pair of ducks also decorates the rear of the barrel. Jaivana rests on a high two-wheeled carriage. The wheels are 1.37 m (4.5 ft) in diameter. The carriage is equipped with two removable additional wheels for transport.

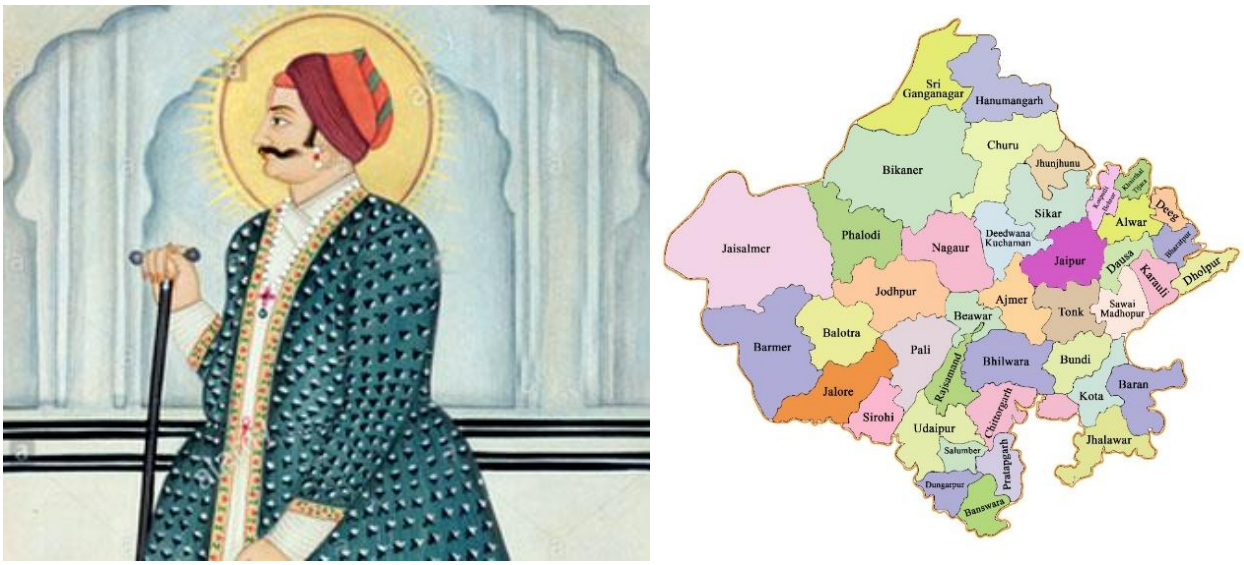

Figure-3: Rajasthan with Jaipur & Maharaja Sawai Jai Singh II.

The removable wheels are 2.74 m (9.0 ft) in diameter. It is mounted on wheels and has the mechanism of two back wheels mounted on roller pin bearings, to turn it 360° and fire in any direction. A tin shed was built to protect the cannon against weather. About 100 kg (220 lb) of gunpowder fired a shot ball weighing 50 kg (110 lb). The uses and range of the cannon and cannonballs vary over different sources. The Jaivana Cannon was only fired once by Jai Singh II, as a test-fire in 1720. The most exaggerated myth claims that the weapon had a range of 40 km (25 mi), other sources say it is 35, 22 and 11 km (6.8 mi), although the exact range could perhaps never be determined without adequate scientific computation. Most sources, including local tourist guides agree that it was fired in the direction of Chaksu. The impact is said by many locals and tourist guides to be powerful enough to have caused a depression where a pond can be seen today. Legend has it that after it fired, pregnant women living nearby suffered miscarriages. The Jaivana cannon is made of iron and was cast in a single piece at a foundry in the Jaigarh Fort in Jaipur, India. The massive cannon weighs approximately 50 tons and features a 20.2-foot-long barrel. Its barrel is engraved with decorative designs and its construction highlights the advanced metallurgical techniques of the time.

Figure-4: World's largest cannon Jaivana.

The Jaivana cannon was loaded using traditional methods requiring a team of soldiers. The process involved thoroughly cleaning the barrel, adding the gunpowder charge, inserting a wad, and finally the cannonball, all of which were then rammed down the barrel.

Loading Procedure

Based on general cannon operation of the era, the process for loading the Jaivana cannon likely followed these steps:

- Sponging the Barrel: Soldiers first cleaned the inside of the barrel with a wet sponge to extinguish any remaining sparks and remove dirt from the previous shot.

- Adding Gunpowder: A specific amount of gunpowder, reportedly 100 kilograms (220 lb) for the Jaivana's test fire, was added using a ladle.
- Inserting a Wad: A wad made of paper or hay was inserted on top of the powder.
- Loading the Ball: A 50 kg (110 lb) iron cannonball was placed into the barrel.
- Ramming: The powder, wad, and ball were all securely rammed into place.

Operation and Firing

- The cannon had an 11-inch bore diameter.
- It was mounted on a wheeled carriage, allowing it to be rotated 360 degrees.
- It was reportedly fired only once as a test by Maharaja Sawai Jai Singh II in 1720. The shot is claimed to have travelled about 35 kilometers (22 miles) and created a depression that is now a pond near Chaksu.

The Jaivana Cannon's sound was described as an immense, low hum or a "song" created by the vibrations resonating through the metal when it was fired. This sound was so powerful it could be heard from a great distance and caused nearby villagers to faint, making it a legendary weapon known for its awe-inspiring sound as much as its physical power.

- A unique, low hum: The vibration of the massive barrel was thought to create a humming or "singing" sound.
- Phenomenal power: The sound was so immense that it could be heard from miles away.
- Impact on people: According to some accounts, the sound was so powerful that it would cause nearby villagers to faint.

CONCLUSION

Jaigarh Fort was a centre of artillery production for the Rajputs. It is now home to the Jaivana – at the time of its manufacture in 1720, it was the world's largest cannon on wheels of the Early Modern Era. The foundry where it was manufactured is also located here. A plaque at the entrance to the enclosure where the Jaivan Cannon is displayed gives relevant information on the history of the Cannon, its size and use. This cannon was never used in any battle as the Rajput rulers of Amer had friendly relations with the Mughals. This testifies to well-preserved features of fort. The cannon was fired only once with a charge of 100 kilograms (220 lb) of gunpowder and when fired covered a distance of about 35 kilometres (22 mi). The Jaivana was manufactured during the reign of Maharaja Sawai Jai Singh II (1699–1743) at a foundry in Jaigarh. The barrel is 20.19 foot (6.15 m) in length and weighs 50 tonnes. It has a diameter of 11 inches (280 mm). The barrel has decorations carved on it which depict trees, an elephant scroll and a pair of birds (ducks). It is mounted on wheels and has the mechanism of two back wheels mounted on roller pin bearings, to turn it 360° and fire in any direction. A tin shed was built to protect the cannon against weather. The cannon had a range of 22 miles and used 50 kilograms (110 lb) balls.

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