Chapter 1
Arms of Jaipur
The arms of eighteenth century Jaipur formed a relevant study because they are extant in good preservation state in Albert Hall Museum. Equal good fortune is that a whole mass of literary evidence is available in the form of Arhsatta and Jamakharch document. Such study would overcome the problem that none other Mughal Nobles has such kind of information. Besides the comprehensive nature of artillery and cannons would add to a sketchy information contained in the Ain. This chapter undertakes to investigate the weaponry which relates to Silekhana which can broadly classified into long and short range weapons. The other concern would be to focus the matchlock, and cannons related to topkhana, and take into account the raw material and information.

G.N. Pant had done some quality work on Indian arms and armours, his work however neglects the consolidated study about the Jaipur weaponry. It also omits any reference about the long range weapons of Jaipur state. So to make a comprehensive study of these arms and armours I have visited The City Palace Museum, Jaigarh Fort, Nahargarh Fort, Amber Fort Jaipur and National Museum, New Delhi which have massive collection of arms and armours related to Jaipur. These weapons belong to 17th and 18th century A.D.

Fortunately Rajasthan State Archives provides literary information pertaining to manufacturing and repairing of Jaipur arms and armours. This rich mass of information can be substantiated by specimens available at City Palace Museum, Jaigarh Fort, Nahargarh Fort, Amber Fort Jaipur and National Museum, New Delhi. In the present chapter I focus on arms of Jaipur.

The Arm Gallery in Maharaja Sawai Madho Singh II Museum prestigiously displays a Katar two sided blade, sheathed and hitched. Dagger with ivory handles having animals motifs. Some daggers were bejeweled. The ornamental daggers were paired with ceremonial costumes. The museum abounds in swords, spears dagger, knives and other beautiful but deadly weaponry. A perusal of such information at hand facilitates us to broadly classify Jaipur weapons into:-

1) Short Range Weapons:-

Short Range Weapons can be classified as:-

(a) Sword (b) Dagger (c) Knife (d) Jamdhar (e) Spear (f) Mace (g) Battle Axe etc.
2. Long Range Weapons:-

Long Range Weapons can be classified as:-

(a) Bow and Arrows (b) Fire Arms: matchlock, rocket, pistol and artillery.

Short Range Weapons:-

Short range weapons are those weapons which were used to attack the enemy at very short distance. Some commonly used short range weapons are discussed below.

a) Sword- The swords were variously named in our records as Tegh, Talwar, Dhup, Katta and Gupti. There seems a large variety of different sizes and shapes of swords. Besides they were double edged and single edged swords. The sword comprises sword and hilt, and were profusely decorated. The blade of metal damascened steel was very popular. The hilts were of metal, wood and ivory. Some sword have scabbards, these were generally made of metals however they were covered ornamentally by Lac or Velvet.¹

![Photo-1 Showing Sword, National Museum New Delhi, Source- Physical survey by Almas Zaidi](image)

¹ Based on physical survey.
b) Dagger:- Dagger was used to overcome the problem attached to wielding of sword. The varieties of dagger extant include those which have wide shoulders and the others which were narrow edged. The shaft of the dagger was much smaller as compared to sword and they were sometime double edged. The hilts in this case were also decorated with animal motifs.²

![Dagger Image]

Photo-2 Showing Dagger (Khanjar), National Museum, New Delhi
Physical survey by Almas Zaidi.

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2 Based on Physical survey.

3 Ibid.
d)  *Jamdhar* :- *Jamdhar* was also a significant weapon constituting blade and hilt. However the shape of the blade is fitted in the hilt like a nib of pen and the hilt covered the larger portion compared to the blade. The blade was straight and pointed. City Palace Museum Jaipur has a collection of *Jamdhar*, which lets us to know that the blade was of watered steel, and had animal motifs where as the handles were embellished by damascening technique.\(^4\)

![Photo-4 Showing Jamdhar](image)

**Photo-4 Showing Jamdhar**

**Adapted from “Indian Arms and Armour”**

\(18\)

e)  Spear:– The spear consists of pointed head, shaft and handle. The head and the handle were generally made up of metal like iron and brass and the shaft was usually made up of wood. This weapon was wielded by infantrymen. All the three parts were beautifully shaped and decorated.\(^5\)


\(^5\) Based on Physical survey.
Photo-5 Showing Spear,
City Palace Museum, Jaipur.
Physical survey by Almas Zaidi.

Photo-6 showing Spear,
National Museum, New Delhi.
Physical survey by Almas Zaidi.
f) Mace (*barchha*):- A mace is a simple weapon in the shape of chib or virge. It had heavy head to deliver powerful blows. It consists of strong heavy, wooden or metal shaft which was further reinforced by a head of iron, brass or steel. The maces of infantry were shorter and than that of cavalry were longer.⁶

g) Battle Axe (*sak*):- Battle axe was a specialized version of utility axe.⁷

h) Knife cum Pistol: - This is a unique masterpiece preserved in City Palace Museum belong to 19ᵗʰ C. It served the dual purpose of targeting as long rang weapon (pistol) as well as short range (knife) which ever was the needed strategy.⁸

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Photo-7 Showing Knife cum Pistol

City Palace Museum Jaipur

Adapted from “Indian Arms and Armour.”

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⁷ Ibid.
⁸ Indian Arms and Armours. Voll, op. cit.
2) **Long Range weapons :-**

This category of weapons employed for targeting far off enemy. Common variety of long range weapons include arrows, matclocks, rockets and bows etc.

a) **Arrows (teer):-** Arrows come in the category of long range weapon, when applied tactfully they could target far off enemy. The Jaipur specimen has tip of metal and shaft of wood. The significant elements of an arrow comprised of 1) point/bhal/parkan, 2) shaft/sari/kilk and feather/par. To facilitate grip, and avoid injury, finger rings were used. They were extremely popular in Jaipur army which can be gauged by the fact that 805 units were demanded by the imperial court see table no 5.

![Photo-8 Showing Arrows in City Palace Museum Jaipur.](Photo-8)

Physical survey Almas Zaidi.

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9 Based on Physical Survey.
b) Bow (kaman):- It was essential element for throwing arrow at the enemy. Bows were made up of 1) stave and 2) string. Stave was curved metal, the string was made up of hide as is discernable form Jaipur specimen preserved in National Museum, Delhi. (Length is 85 cm.)

![Photo-9 Showing Bow and arrows, National Museum, New Dehli. Physical survey by Almas Zaidi.](image)

c) Fire Arms: Match-lock, Rocket and Pistol:

Rocket (mehtab):-

Till date Ban (cannons) had been studied by scholars as deadly long range weapons. Our study brings forth the information about the Mehtab. The literal meaning of Mehtab according to Steingass is a kind of fire work. According to Irvin, he presumes Mahtab as Rocket or missile. The total Than of Mahtab purchased in

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10 Based on Physical survey.
12 *Arhsatta Topkhana*, bundle number henceforth B.N. 1. Rajasthan Sate Archive, 1717 A.D.
14 *The Army of Indian Mughals*, op. cit., p.151.
1717 A.D was 1404 Than (see table-1). The price of per Than was from Rs1404 to Rs47658.\(^\text{15}\)

It is surprising to find such evidence contained in our documents regarding Mehtab (rocket). The rocket is set up in tilted position and fired. It lands on the target and damages it.

Camel swivel (Jazail) was a fire arm which literary means shuturnal.\(^\text{16}\) Matchlock and Pistol also other important constitute of fire arms. Fortunately we have the information in our document about the explosive, which were used for firing from these weapons\(^\text{17}\). The quantity of the ingredient used for making the explosive. The quantity of ingredients, which were used for manufacturing explosive in 1726 A.D., were 29.12 Man of saltpetter (shora) and 9 Man of sulphur (gandhak).\(^\text{18}\) The gunpowder (daru) was purchased 4356.15 Man at expenditure range from Rs 196014.39 to Rs 376670.40 in 1736 A.D.\(^\text{19}\) The gunpowder bags (thaila gazi) were used for carrying gunpowder.\(^\text{20}\)

Abul Fazl mentions “There are in particular favour with His Majesty, who stand unrivalled in their manufacture, and as a marksman. Matchlocks are no made so strong that they do not burst, let off when filled to the top. Formerly they could not fill them to more than a quarter. Besides, they made them with the hammer and anvil by hammering pieces of iron and joining the flattened edges of both sides. Some left them, foresight, on one edge open; but numerous accidents were the result, especially in the former kind. His Majesty has invented an excellent method of construction. They flattened iron, and twist it round obliquely in from of a roll, so that the folds get longer at every twist; they then join the folds, not edge to edge, but so as to allow them to lie one over the other, and heat them gradually in the fire. They also take cylindrical pieces of iron and Pierce them when hot with an iron pin. Three or four  

\(^\text{15}\) Arhssattap Topkhas document.  
\(^\text{16}\) The Army of Indian Mughals, op.cit., p. 4.  
\(^\text{17}\) Mughal Karkhanas at Amber: A study of Animal Stables and Manufactories of Arms and Palanquins in the Eighteenth Century, op. cit.  
\(^\text{18}\) Tauji Jama Kharch ,Topkhana, Jaipur, V.S. 1783, (microfilm Department of history A.M.U. Aligarh).  
\(^\text{19}\) Arhssatta Topkhans , B.N. 1, op. cit., 1717 A.D. see also, Zaidi Almas, Arhssatta Topkhana – Document Of Rajasthan State Archives, Presented at All India Conference, Rashtriya Sanskrit Vidyapeeth , Tirupati, Andhra Pradesh, June, 2010, p. 4.  
\(^\text{20}\) Ibid., p. 5.
such pieces make one gun; or, in case of smaller ones, two. ...........
The gunstocks are differently made. From the practical knowledge of His Majesty, guns are now made in such a manner that they can be fired off, without a match, by slight movement of the cock. Bullets are also made as to cut like a sword.”

The above paragraph facilitates us with knowledge of manufacturing matchlock and guns during the reign of Akbar which was adopted by Jaipur artisans. There were various terms related to firearms in our document such as Nali is the barrel of the banduq. Takht nali ka is wooden plank used for keeping the nali. Nali Sarotar is a kind of barrel. Badi nali is a big barrel. Dhamaka is name of cannon. Fal Banduq is blade attached to the banduq. Sacha banduq ka is frame of banduq.

The Gun Foundry: -

The Jaigarh Fort Gun Foundry is the one of best preserved and surviving Gun Foundry in the world. It is situated in North-Eastern extreme of Jaigarh Fort. The Mughal did not want to share the knowledge of gunpowder, and of manufacturing the cannons, to any noble. The nobles of Amber, Bhagwandas and Man Singh were on high position in the Mughal army. They were also kept away from formula of gunpowder and cannon manufacturing. When Man Singh was sent to Kabul as the governor of Kabul for six year, he gained knowledge of manufacturing cannon and gunpowder. He brought this knowledge to Amber in late 16th century. Man Singh built Gun Foundry at Jaigarh Fort in 1584. The process of manufacturing of cannons continued till late 19th century. The main functions of this Gun Foundry were: 1). To melt the metal. 2). To make clay moulds and cast solid barrels 3). To make hole with the use of the lathe machine. 4). To prepare the barrel for war field by adding side part to barrel and to make it stand on wheel. 5). To make cannon ball.

The Gun Foundry in Jaigarh is spread over an area of 162 ft. by 57 ft. It is divided into two complexes: 1). Furnace Complex and 2). The Drilling Complex.

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21 *Ain-i-Akbari*, op. cit, p. 119
22 *Taufi jamakharch tophkana* Jaipur microfilm at Aligarh Muslim University, Aligarh 1783 V.S.
The Furnace Complex:-

The Furnace of Jaigarh Gun Foundry is a reverbatory open-hearth type furnace. The dimensions of the furnace are 24*12*10.\textsuperscript{23} There are three chimneys at the roof charging windows, which were used for inserting the metal into the hearth furnace. These two windows were operated by the hand pump system, fixed at the roof of the furnace. The shape of the bath of the furnace is oval, which is connected to the chimneys. The bath has a small window of 2ft.*2ft. which opens in the main pit outside the furnace so that molten metal could be poured into the mould.\textsuperscript{24}

There is a long tunnel of 72 feet which was used for the passing the air into the fire chamber attached to the furnace. Firewood was placed at the gate of this chamber there is a window connecting the bath chamber and fire chamber, which allows the hot flames to enter the bath, when the firewood was burnt. When the metal was molten it was allowed to flow into the mould in the adjoining pit. The instruments used in the melting operation of the metal were called karchoo, kolai, panja, dantali, nagfani and saja etc.\textsuperscript{25}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{23} The Saga of Indian Cannons, op. cit., p. 105.
\item \textsuperscript{24} Ibid, p. 105.
\item \textsuperscript{25} Ibid, p. 106.
\end{itemize}
\end{footnotesize}
Photo-10 Showing Furnace of Jaigarh Gun Foundry Jaipur. Adapted from "Saga of Indian Cannons."

Photo-11 Showing three chimneys and hand pump for opening windows a long tunnel for air cross in the fire chamber of furnace. Adapted from "Saga of Indian Cannons."
Drilling Complex:-

The Drilling Complex is a mechanical device of Gun Foundry. It was used for drilling the bore into the solid casted barrels. The drilling complex is an octagonal room having the height of 31 feet, which consisted four wooden cross bar rotated by four pair of oxen.

There is gear system, lying below the room which consists of two vertical wheels and one horizontal wheel. When cross bars were rotated by four pair of oxen, the grand horizontal wheel rotate, the size of this wheel is same as the octagonal room. The grand horizontal wheel rotates the other two inside vertical wheel, which are connected through wooden shaft. The fourth wheel, which is visible opens into the drilling complex. It posses the socket in which the cutters of different size were fixed, so that they can drill the holes into the barrels.26

The cannon Moulds

There are two methods of making moulds as described by scholars. One of the method is described by R. Balasubramanian in his book “The Saga of Indian Cannons” According to this method, mould was made as a complete whole. For the preparation of this kind of moulds, the tapering circular wooden beam of the same size was taken. An extension was made to the muzzle so that the molten metal could easily pour into the mould. Then after greasing the wooden beam the rope was round over it, for making the margin of one inch to form the barrel. Then the actual shape was made by coating layer of clay one after other. When the one layer of coat was dried then the other layer was applied. After the model took actual shape of the cannon the trunions shaped wooden block and the decorative pattern were attached to it, then the cover of molten wax was applied to it. The model was made larger in dimensions, in order to allow the contraction for cooling27.

On this model, the mould was prepared, by applying the semi liquid mixture of clay, and sand. This mixture was made carefully, so that it could flow on the pattern minutely. The layers of mixture were applied one after other, in a manner, when one layer dried the other was applied. After reaching to the thickness required

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26 Placard in Gun Foundary. See also, Saga of Indian Cannons, op. cit., p. 105.
27 The Saga of Indian Cannons, op cit., p. 97.
the mould was ribbed. When the mould was completely dry. Then the trunnions and
the wooden beam were removed, after that the rope was unwinded. Then the mould
was kept on fire to melt the wax, which make easy to remove the clay parts without
damaging the mould. The trunnions holes were covered by tiles. The moulds were
first made both sides open for removing the patterns and there was separate mould
made for cascable. Then they were joined together. This makes the mould complete.
The mould was used for only once. The decorative patterns were made on wax and
were fixed into the mould, when the mould was heated the wax melts, the design
remained this design was then filled by the molten metal.28

The other combined work of R.S. Khangarot and P.S. Nathawat describes that
the moulds were prepared in split- pattern. The two half were joined together to make
a complete mould. These moulds were made up of sand. This sand consisted of
quartz, clay substance, feldspar, mica etc. The paste of the water and sand was made
to form the mud. The inner layer was made by wooden beam. The inner surface was
made smooth to inlay the patterns and design inside the mould, so that the design
could appear on the surface of the cannon after cooling. Then two half were joined
together to make a complete mould. After that, the iron sleeves or bracing were
wrapped so that mould could bear the pressure of molten metal, and an iron dish was
used at the bottom for the support of the base. There is a complete mould of 12 feet in
length in Jaigarh Fort.29

28 Ibid., p. 98
Physical survey by Almas Zaidi.

Raw material:-

When we compare the description provided by Subramaniam and Khangarot and compare it with topkhana document. We also have information about wax, rope, and wood beam in the primary document, conforming with Subramaniam’s account.

Before discussing the various cannons of Jaipur, I would like to discuss the construction and working of a typical cannon.

Parts of cannon:-

Normally the cannons were tapering from the breech to the muzzle. The muzzle was the mouth of the cannon from where the cannons were charged. It had embossed rings on the surface for the purpose of decoration and to make the cannon strong. The trunnions were the projections at the centre which were used to keep the cannon on the carriage or on the platform. The breech was the rear of the cannon, it

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30 Tauji Jama Kharch document.
had projection in a shape of ball (knob button) which was used for elevating the cannon in all direction. The vent was a touch hole from where the gunpowder was poured and cannon was ignited by linstock.\textsuperscript{31} See fig.

![Diagram of cannon parts]

**Photo-13 Showing Parts of cannon.**

*Line drawing by Almas Zaidi.*

Tools used for cannons:-

There were some tools which were used in operating the cannons. The rammer was used to fill the charge into the bore of the barrel. Wadding was wood, cloth or soft stuff. Wormer was used for cleaning the unburned scraps of powder cartridge from the barrel. Sponge was used for cleaning the unburned ember. Picker was bag used for pouring the gunpowder into the barrel. Linstock was used for igniting the cannon.\textsuperscript{32}

The operation of the cannon:-

At first the gunpowder was filled firmly back behind the wad. After that, cannon ball was firmly fixed against the wad. Then the gunner poured the gunpowder into the touch hole. To fire the canon the gunner keeps the slow match or red hot rod.

\textsuperscript{31} *Saga of Indian Cannons*, op.cit., pp. 47-50

\textsuperscript{32} *Ibid*, p. 58.
This slow match was brought to the touch hole, it ignites the charge and charge gets detonated and the cannonball comes out of the cannon.\footnote{The Saga of Indian Cannons, op. cit., p. 59.} See fig

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{cannon_operation.png}
\caption{Operation of cannon: Line drawing by Almas Zaidi.}
\end{figure}
Cannons are masterpieces of Jaigarh Topkhana. These are placed at Jaigarh fort, Nahargarh fort, Amber fort and City palace at Jaipur. Besides these masterpieces, we have also the literary information about this *Topkhana* in form of *arhsatta topkhana* and *tauji jamakharch topkhana* which supplied novel, intricate and comprehensive information, which can enrich the existing information sifted from Mughal documents.

Cannons produced by the Jaigarh Gun Foundry can be divided into two categories, (according to weight):

1. Light cannons
2. Heavy cannons

Light cannons:-

The light artillery pieces include the cannon weiled on animals such as *ghurnali, hathnal, shuturnali, zambur* and *jazail*. The other common were *Raheru, dhamaka* and *Ramchangi*.\(^{34}\)

Heavy cannons:-

These cannons were very difficult to move. The excellent examples of these masterpieces, which are placed at Jaigarh Fort are as follows:

Jaivana cannon:-

It was the largest cannon of the world during medieval times. The Russian have claimed that they have the largest cannon in the world. But the barrel of their cannon is smaller than that of Jaivana. Jaivana cannon was made in 1720 during the time of Sawai Jai Singh, in the Gun foundry in the Jaigarh Fort. The length of Jaivana from tip of the barrel to the tail of carriage is 31 feet 3 inches. The length of the barrel is 20 feet 2 inches and it weighs 50 tons. The circumference near the tip of the barrel is 7 feet 4 inches and that of the rear is 9 feet 4 inches. The barrel has beautifully

\(^{34}\) For the detailed discussion on these cannons see, *Mughal Karkhanahs at Amber: A Study Of Animal Stables and Manufactories Of Arms and Palanquin in Eighteenth Century* op. cit.

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decorated with floral designs. An elephant is carved on the tip of the barrel and a pair of peacock is carved at the centre. A pair of duck is also depicted on the cannon. The bore is 11 inches in diameters and 8.5 inches in the thickness at the tip. There are two rings which were used to lift the cannon.

The barrel of Jaivana cannon rests on four wheeled carriage. The measurement of the front wheel is 9 feet in height and 4.5 feet in height of rear wheel. The thickness of the wheel is more than one feet. The barrel is kept on 24 feet long shaft of the carriage. This shaft is 8 inches thick and 2 feet 3 inches broad. The two hooks on either side of the cannon was used to rotate the cannon with the help of rope and elephants. The elevating screw is 8 feet long, and is used for raising and lowering the barrel of the cannon, about 100 kg of gunpowder was required for each fire and the weight of the cannon ball was 50 kg. It is a matter of debate that this cannon was fired or not, some people say that the cannon which was never fired had smooth bore but the bore of Jaivana cannon has marks inside which shows that it was fired for several times.35

Photo-15 Showing Jaivana Cannon,

Jaigarh Fort, Jaipur.

Physical survey by Almas Zaidi.

35 Placard in Jaigarh Fort.
The Bajrangvana Cannon:-

This cannon had iron sleeves (coating) inside the barrel which made it tenacious. This cannon is also an example of garrison cannon. It rests on the two wheeled gun carriage. It was moved with the help of 16 pairs of oxen. The cannon can be termed as a mini Jaivana.\(^36\)

\[\text{Photo-16 Showing Bajrangvana Cannon} \]
\[\text{Jaigarh Fort Jaipur.}\]
\[\text{Physical Survey by Almas Zaidi.}\]

The Karak Bijii Cannon:-

It is possibly the earliest cannons in the Jaigarh fort. This was made during the time of Bhagwandas in 1588 A.D. This cannon was used by Man Singh in the battle of Bihar, Orissa, Bengal, Deccan etc.\(^37\)

\(^36\) Placard in Jaigarh Fort see also, *Jaigarh, The Invincible Fort of Amber* op. cit., p. 80.  
\(^37\) Ibid.
Nagin cannon:-

It is unique cannon having six barrel in a single bore. It was made Sawai Ishwari Singh. It was used at the battlefields of Raj Mahal in 1749, at Bagroo in 1750, at Luniawas in 1751, at Didwana in 1755 etc\textsuperscript{38}.

\textsuperscript{38} \textit{Ibid.}, p. 81
The Badli Cannon:-

This cannon was manufactured in 1600 A.D. and was used by Man Singh and his descendants. Mirza Raja Jai Singh used this cannon to suppress the rebels of Balkh and Qandahar in 1652. It is also used in opposition of Shivaji in 1660 when the fort of Purandar was captured and Shivaji was sent to Delhi. 39

The Machhban Cannon:-

Machhban was manufactured in 1606. This cannon was used by Sawai Ram Singh in the battle of Assam, Kangra, North West Frontier Province, Kabul etc. in 1670, 1671, 1675 and 1690 respectively. It was used in the battle of Jawari ki Gari in 1698 and Kanota in 1711. 40

Dhoomban:-

This cannon was manufactured in 1622 at Jaigarh. This was used by Mirza Raja Jai Singh and his descendants. Mirza Raja Jai Singh employed it when he was assisting Dara Shukoh at Qandahar in 1642 in opposition to Shah Shafi the king of Iran. It was also employed by him against Maharaja Jagat Singh of Chittor in 1653. Sawai Jai Singh used it against Rao Budh Singh of Bundi in 1735. Maharaja Ishwari Singh employed it against Madho Singh in the Battle of RajMahal. 41

Nahar Mukhi Cannon:-

This cannon was manufactured in 1675. The shape of the tip of the barrel is in the shape nahar (Lion) and hence the name. It was used by Sawai Jai Singh against Baji Rao Peshwa in 1736 on the frontiers of Rajputana. 42

There are also many stray cannons placed at Amber Fort, City Palace, and Nahargarh Fort see fig.

39 Ibid., p. 80.
40 Ibid.
41 Ibid., p. 81
42 Ibid.
Photo-19 Showing Stray Cannon at Nahargarh Fort, Jaipur
Physical survey by Almas Zaidi.

Photo-20 Showing Stray cannon at Jaigarh Fort Jaipur.
Physical survey by Almas Zaidi.
Photo-21 Showing Stray cannon at Amber Fort, Jaipur.

Physical survey by Almas Zaidi.

Photo-22 Showing Stray Cannon at city Place Jaipur.

Physical survey by Almas Zaidi.
Wielding of Cannons:-

The cannons were also placed on the fort for the protection of the fort. The cannon were place at the bastion, rampart wall, and in the crenels in the parapet. In the Forts of Jaipur city the cannons were kept on the carriages, tripod stool etc on the bastions. They were not attached to the surface of the bastions as in the other forts described by R. Balasubramanian in his book “The Saga of Indian Cannons”. That the fogged shaped alignment raised from the surface of the bastion and in this projection the cannon was placed. The cannon which were placed on the bastion were the heavy cannons.

The light cannons were placed on the ramparts and crenels in the parapets. The cannon where also stationed on the tower outside the city but in the Jaipur city we did not find any tower were cannon could be placed.

Cannon and Sieges:-

The cannons were also the prominent feature of the sieges. They were placed all around the besieged fort on the carriages, and sometimes small walls were raised, which had parapets, crenels, and loop holes so that cannon could be placed on them in the raised platform for better positioning and protections See fig.
Photo-23 Showing Use of Cannon in Siege operation.

Source- “Akbar Nama.”