

## LIGHT AND HEAVY WEAPONS IN THE THOUGHT OF IBN MANKALI (D. 784 AH / 1382 AD)

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### Abstract:

**Mankali (d. 784 AH/1382 CE)**, a prominent Mamluk scholar and strategist known for his significant writings on the art of war. The study highlights his views on the importance of light weapons—such as the sword, spear, dagger, and mace—which played a vital role in shaping the skills and valor of the warrior. It also explores the function of heavy weapons, including catapults, cannons, firearms, towers, and war machines, as decisive tools in siege and offensive operations. Furthermore, the research examines the defensive equipment used by the Mamluks, such as helmets, shields, and armor, alongside fortifications, trenches, and protective barriers, which together formed an integrated system of defense. By analyzing Ibn Mankali's writings in comparison with other contemporary historical sources, the study reveals his profound military expertise and demonstrates the richness of Islamic martial thought during the Mamluk period and its contribution to the evolution of medieval warfare.

**Keywords:** weapons, defensive, offensive, light, heavy, thought, Ibn Mankali.

### Introduction:

Since humanity knew war, it has been in a constant quest to innovate the means and tools that preserve its survival and grant it superiority on the battlefield. Islamic civilization was one of the most prominent incubators that paid great attention to the arts of war, as field experience was combined with theoretical knowledge, and from it emerged a rich military heritage that continues to interest researchers to this day. At the heart of this heritage stands the name of Jalal al-Din Muhammad ibn Mankali (d. 784 AH / 1382 AD), one of the Mamluk statesmen who combined military experience with scientific practice, leaving pioneering works such as the Royal Rulings, the Legal Controls, and the Official Guides on Military Expressions..

In his works, Ibn Mankali addressed the subject of war weapons at both levels: light weapons carried by the individual, such as the spear, sword, and dagger, and heavy weapons associated with sieges and conquests, such as the catapult, cannon, and tank. His interest was not limited to describing the tools, but rather he presented precise concepts about training methods, the foundations of discipline, and the techniques appropriate for each type of weapon in different battle conditions. He also attached great importance to defensive equipment, whether individual, such as shields and shields, or collective, such as castles, trenches, and fortifications, which reflects a comprehensive vision in his understanding of the sciences of war..

The study of Ibn Mankali's thought is not merely a survey of combat techniques in the Mamluk era, but rather a window into the mindset of the Muslim leader who realized that victory was not achieved by physical force alone, but rather by knowledge, organization, and continuous training. Hence the importance of this research, which seeks to demonstrate the status of military weapons in Ibn Mankali's thought and to highlight their impact on the development of Islamic military strategy during the Middle Ages, thus adding a new building block to the field of historical and military studies..

The study comprised two sections. The first dealt with the biography of Ibn Mankali, his name, academic career, works and publications, his military role in the

Mamluk era, and his death. The second section included a detailed explanation of light and heavy weapons, light defensive equipment, and heavy defensive means.

### **Chapter One: Biography of Ibn Mankali**

#### **First: His name**

Jalal al-Din Muhammad ibn Mahmud ibn Nizam al-Din Mankali al-Qahiri, as contemporary historians of his period mentioned several titles for Muhammad ibn Mankali <sup>(i)</sup>That he is Muhammad bin Mankali the preacher. <sup>ii)</sup>Some of them said that he was Muhammad bin Mankali Al-Ilmi. <sup>iii)</sup>And some of them said that he was Muhammad bin Mankali Al-Nasiri. <sup>iv)</sup>He was considered one of the most prominent military figures in the Mamluk army at that time, with his knowledge, wisdom and expertise. He was always close to the Mamluk governor and the Mamluk ruling class in Egypt.

#### **Second: The scientific and doctrinal biography of Ibn Mankali**

As for the biography of Muhammad bin Mankali, after searching and investigating the books and biographies of his contemporaries among historians about that and about his scientific biography, his sheikhs and his students, it is almost completely non-existent. However, it became clear to us during the research and study that he often mentioned and cited the jurisprudence of Imam Abu Hanifa al-Nu'man and prayed for his blessings, and perhaps that indicates to us that he was of the Hanafi school of thought. <sup>v)</sup>

We can also say that Ibn al-Mankali was a Sufi, as we can infer from the phrases he wrote in his books, such as "The Despicable Slave." <sup>vi)</sup>And also (the servant who is poor before God Almighty) <sup>vii)</sup>And also (the weakest and most contemptible of God's creation) <sup>viii)</sup>These terms, which denote human humility, were frequently used by Sufis.

#### **Third: His scientific works and publications**

Muhammad bin Mankali has many books and works, some of which have been verified and some of which are still missing and have not been found. We will now mention all of his lost and recovered books and works, as follows:

1. Royal decrees and legal regulations.
2. Official evidence of war expressions.
3. Lunar expressions.
4. The maximum period in response to the denier of the secret of the number.
5. Forget the angels and the beasts of the desert.
6. Tricks in war, conquering cities and protecting roads.
7. Precious pearls on the conditions of the ancients.
8. Message of investigation into the speed of reconciliation.
9. The satisfactory message in the military industry.
10. The contract is followed in what is required of the king's companion.
11. Sultanate measures in military industry policy.
12. The Art of War
13. The sweet spring for the water of the people of war.
14. Disclosure and statement.

When we searched for these books, we only found some of them, including the Royal Rulings, the Legal Controls, the Book of Official Evidence on Military Expressions, the Insights of Mulla on the Wilderness, the Sultanate Conspiracy and Tricks in Wars, and we did not find any of the other books.



#### **Fourth: His military position in the Mamluk army (army captain)**

Perhaps when a researcher hears or reads the word captain in the army, what comes to mind is that person who joins the military college and graduates as a lieutenant officer and then rises through the ranks until he reaches the rank of captain in the army, who has military duties towards his corps. This is the military meaning of the rank and position of the person who holds the rank of captain in the army and military, and this is the common meaning.

In the Mamluk era and during the reign of Ibn al-Mankali, the term “naqib” had another meaning and another nature of work that was radically different from the modern meaning. We will explain that according to the information we found in the sources about it, as Muhammad Ibn al-Mankali took over the Mamluk army syndicate.<sup>ix)</sup> During the reign of Al-Ashraf bin Shaaban (764-783 AH / 1362-1381 AD)<sup>x)</sup> He was inclined towards military sciences since the beginning of his life.<sup>xi)</sup>

As we mentioned earlier, the rank of captain has meanings and duties other than those we know in the Mamluk army, and we will try to clarify these meanings as much as we can as much as we can:

1. Organizing the army ranks: This means organizing the army ranks during military parades that usually take place in the presence of the Sultan.<sup>xii)</sup> It was known at that time, according to military organizations, that the royal circle or the force close to the sultan numbered about 24 thousand fighters, and every 200 fighters of these were added to one of the princes, and every 200 fighters of the 24 thousand were headed by a captain who organized their ranks and prepared them for the military parade.<sup>xiii)</sup>
2. The second function of the army captain: It is a function similar to that of a chamberlain, so to speak, as the army captain at that time summons anyone the Sultan requests to attend his councils from among the princes or other members of the royal circle.<sup>xiv)</sup>

Muhammad bin Mankali practiced both positions during the reign of Sultan Ashraf bin Shaaban until the death of Ashraf in the year (784 AH / 1382 AD)<sup>xv)</sup>.

#### **Fourth: His death**

Researchers and authors who wrote about Ibn al-Mankali differed about the date of his death. Some of them said that he died in the year 770 AH / 1368 AD.<sup>xvi)</sup> While others said that his death was in the year (784 AH / 1382 AD)<sup>xvii)</sup> Some of them believed that Ibn Mankali died in the year 778 AH / 1376 AD.<sup>xviii)</sup> Others said that his death was in the year (748 AH / 1347 AD).<sup>xix)</sup> Some of them believed that Ibn Mankali died in the year 778 AH / 1367 AD.<sup>xx)</sup>

As researchers, we can assume that the death of Muhammad ibn Mankali was in the year (d. 784 AH / 1382 AD), and we preferred it to other years because this date associated with his death was mentioned in more than one source and was repeated by more than one historian contemporary with Ibn Mankali. In any case, Muhammad ibn Mankali died on the twentieth of Rabi` al-Awwal and his death was sudden. Among his qualities was that he was gentle and good in his speech.<sup>xxi)</sup>

In one of Ibn al-Mankali's works, the date of composition was mentioned (778 AH) in (Mamluk Rulings and Legal Regulations), as there is a handwritten copy in (Dar al-Kutub al-Masryia) No. (705) (Military Arts), this is conclusive evidence that the author's death was not in the year (774 AH), and also according to historical sources, Ibn al-Mankali was a contemporary of the reign of Sultan (Al-Ashraf Sha'ban bin Hussein 764-783 AH / 1362-1381 AD), and it was not possible for any author in those eras to compose several works in a short period of time with the

capabilities available at that time, and therefore the researcher's opinion settled that Muhammad bin al-Mankali died in the year (784 AH / 1382 AD).

## **Section Two: Light and heavy weapons and light and heavy defensive equipment**

### **First: Light weapons.**

#### **1. The sword:**

Ibn Al-Mankali pointed out:<sup>xxii)</sup>To the sword and its importance among all types of weapons used in combat. I have learned that no weapon is described as generous and precious, and is valued, boasted about, and sought victory like the sword. It has prestige and superiority over all weapons, and is the decisive factor in striking and weapons. All people, whether they practice horsemanship or not, use it. Ibn Mankali describes to us that weapons, especially the sword, have qualities similar to those described as generous, because the sword preserves the dignity of the person who carries it, as he defends himself and his community with it. Its bearer boasts about it when he stands with it in the face of enemies. The sword has prestige and features that distinguish it from other weapons, and it is the most common and used by fighters, so that all other types of the army also use the sword in addition to the weapon they are skilled at using. It is used to confront all battle conditions, and all fighters use the sword, whether they work in horsemanship, foot, or the rest of the types, meaning that the sword is a general weapon.

The sword is one of the oldest weapons used by humans, and one of the most beloved by its users. Heroes, brave men, and powerful men in wars have preferred the sword over other tools of war after using it in battles and various combat situations. Using the sword requires a person with boldness in his heart, courage, and powerful nerves, because the warrior with the sword stands face to face with his opponent, as the distance between the disputants does not exceed one to two meters, unlike other weapons, where the distance between the disputants is several meters greater than with the sword. Thus, the greater the distance between the fighters, the less the chances of death.<sup>xxiii)</sup>

The swords used by the Islamic armies were varied, including short, long, wide, thin, and straight. These swords varied according to the materials from which they were made and the regions in which they were manufactured. Some of them were known as Yemeni, antique, Qalsi, Indian, Sulaymaniyah, Levantine, Khurasani, and Frankish.<sup>xxiv)</sup>

If the Mamluk army in Egypt used throughout their reign several types of swords that they used in their wars, including the long, short, broad, straight, single-edged sword and straight, double-edged sword as well (<sup>xxv)</sup>.

Every fighter who used swords in combat had to make special slings for them to be hung on the shoulder or in belts.<sup>xxvi)</sup>

One of the things that a swordsman must know and master is how to use the sword in battle in all the ways and methods of using the sword and moving on horseback or on foot. He must also know the six strikes for using the sword and know how to turn the sword when needed. The six strikes are: striking sideways, which is striking the sword with a strong and intense strike, and it is in the position of responding and striking together. As for striking forward, it is striking the face directly in front of him lengthwise. Striking in response is striking the enemy when the enemy strikes a blow to the fighter so that his strike is in return. Striking from behind is when the enemy is in a position of fleeing. Striking from the back is when

the enemy is riding a horse or mare. Striking backward is stabbing with the sword at the enemy in front of him. Striking downwards is when the enemy is lying on the ground.<sup>xxvii)</sup>

When Ibn Mankali Shar (<sup>xxviii)</sup>On the importance of the sword, he said: “Whoever has a weapon cannot do without a sword, and the owner of the sword does not need any other weapons.”

This is a clear indication of the great importance of the sword among all weapons. The sword had a special importance, as the fighter could do without other weapons, but he could not do without the sword.

As Ibn Mankali pointed out,<sup>xxix)</sup>On how a knight learns to use the sword through training, he said: ((If you want to learn how to use the sword like a knight and strike with it, then get a wet reed, the length of a knight’s height, or a wet rod. Place it on the ground and secure its bottom. Then move away from it and place it on your right, then run towards it. Learn with the weapon together. Do this repeatedly, shortening the rod by striking it with each shot.)) That is, place a reed or a piece of wet wood in the ground, then attack that reed repeatedly with the sword, using the seven flails in each attack by striking the reed until it becomes an arm’s length from the ground. The benefit of this is for the fighter to gain agility and movement when fighting. This is the best training in using the sword for a knight.

## **2. Sagittarius:**

Ibn Mankali touched upon (<sup>xxx)</sup>This type of weapon is necessary for every soldier and commander because its use is very effective in battle, especially if the archer is experienced in archery. During battles, its bearer can kill his enemy from a long distance, and its use according to pre-established plans may change the balance of the battle. It is very important in combat while besieging the enemy in a castle or in a fortified city. During this time, the enemy is shot with arrows and distracted until others can break down the castle door or the main door of the fortified city.

It is an ancient weapon that the Arabs used with skill and mastery, and they were able to seize the advantage of superiority in its use from their opponents. It is the main weapon of the archers (the crossbow), and the cavalry was also armed with it in addition to the sword.<sup>xxxi)</sup>

The bow is a piece of wood, especially pine wood, which is a wood with a great advantage in terms of softness and strength. It curves like a crescent and a string is fixed in it for the purpose of throwing arrows or darts at the opponent. When using it, the archer must hold the middle of the bow with his left hand, then place or fix the arrow in the middle of the string with his right hand, then pull it towards him, leveling his right elbow with his shoulder, aiming at the target while looking at the target, then release it and the arrow will fly towards the target.<sup>xxxii)</sup>

The more flexible and supple the bow was, the further and more accurately the arrows could be shot to hit the target. The Arabs made developments to the bow, and what was called the Arab bow or the bow of calculations appeared, because it shoots a number of arrows ranging from four to five arrows, and when they are fired they come out like locusts in one go, so one of these arrows was bound to hit the target inevitably.<sup>xxxiii)</sup>

The arch consists of several parts:

- A- The string: It is made of twisted strings or leather straps. In the middle of the string is the handle for the archer so that it is easy for him to pull it backwards. It is called (the trap).<sup>xxxiv)</sup>

B- The quiver: It is the quiver that is usually made of leather to carry arrows and is hung on the archer's shoulder.<sup>xxxv</sup>.

C- The arrow: It is the crossbow that is launched from the bow towards the target, and it is made of the wood of the spring or the shohat, and the arrow consists of the following parts (the blade), which is a piece of sharp iron placed in the head of the arrow, and (the spear), which forms the body of the arrow made of wood, and (the reed), which is the tail or the last part of the arrow, in which the feathers are fixed to maintain the balance of the bow while launching it towards the target.<sup>xxxvi</sup>.

The Arab Islamic armies, including the Egyptian army in the Mamluk era, used various types of bows in their various battles. These bows differed in terms of use, place of manufacture, and method of manufacture, including:

A- The hand bow: It is the bow from which the arrow is launched by means of the hand. There are several types of it, including the Arabic (the bow), the Persian, which was more widespread in the Levant and Egypt in the Mamluk era, and also the Turkish, the Ziyar bow, and the hand bow was effective in battlefields in open places such as deserts when meeting the enemy.<sup>xxxvii</sup>.

B - The man's bow: It is the bow that is prepared to launch arrows towards the target by the power of the feet, by pushing the man's legs while returning his back backwards because pulling them forces the man to put a leather belt around his middle and two iron hooks at its ends, and this type of bow is useful in battles to besiege castles and fortresses, and it is stronger than the hand bow and can be shot from inside the fortresses and it is also called the tower bows (<sup>xxxviii</sup>).

The Egyptian army in the Mamluk era used linear, long and angular arrows. The arrow was used to throw oil and fireballs at enemy forts and camps.<sup>xxxix</sup>.

### 3. Pin:

As for the pin, which is the weapon mentioned by Ibn Mankali (<sup>xl</sup>) And how to use it, he said: ((Except with pins, not with swords except to pierce their faces and eyes, because they exaggerate in wearing iron, and there is no harm in taking stones with them to throw at the Franks on their head or face)), as the Frankish army wore a lot of iron, so the effect of the sword on them was little during the fighting that took place between them and the Islamic armies, so Ibn Al-Mankali indicated the use of the pin in such battles because hitting with a pin leads to injuries such as fractures in the skull and shattering of bones in any area it is hit, in addition to using stones with the pin to be more effective than the sword, and because the various weapons have a use in every special situation, there is a type of weapon suitable for fighting.

The dabās is a light weapon, and it is a war machine that dates back to the Middle Ages. It was made of thick wood, about two feet long, and at one end had an iron head in the shape of a circular ball. The fighter used it to hit the enemy to break his metal helmet. Most of the knights carried it with them in the saddles under their feet, and it was also known as the a'mād.<sup>xli</sup>.

The bead is the basic iron part that is the striking side, and the bead is of various shapes, and the bead is the head of a pin, either it is a circular ball of iron or it has sharp molars and teeth, and for others the bead is made up of several iron rings, and the handle is made of strong wood.<sup>xlii</sup>.

The pin was also used in the Ayyubid army, especially by the knights, along with other weapons, when the Crusaders attacked the Ayyubid army in the Tower of Acre, as there was a spring of water from which a river flowed towards the sea. In the

year (587 AH / 1191 AD), the Franks marched east of this river and continued their advance until they reached Ras al-Ma'. When they saw the Muslim armies, they turned to the west of the river and a battle took place between them and the Ayyubid army, and most of the Muslims were struck with pins and other weapons.<sup>xliii</sup>.

#### 4. Column:

Ibn Mankali touched upon (<sup>xliv</sup>)Another type of light weapons is the pole. He said: "As for the encounter between the intentional knight and the intentional knight, the foot soldier is more likely in many ways. This is if the foot soldier is light, as he may attack the knight, and if he strikes him, he will bend down to strike, but his strike will not hit him." The pole is one of the important weapons that the knight can carry and use in combat, as well as other fighters, and it is effective in combat for those who have mastered the skill of using it. Knights mostly use it to confront other knights face to face, and the man and knight using the pole must be fast, agile, and experienced in using this weapon.

The shaft is a light weapon used in Islamic armies in their combat operations, including the Egyptian army in the Mamluk era. It is an offensive cavalry weapon made of iron and is useful in combat to break the shield and helmet worn by the enemy. It has the same uses as the previously mentioned pin weapon. It is made of iron and is stronger than the pin when striking the enemy with it. Its manufacture is similar to the spear and there is nothing at its tip like the pin except the handle through which it is carried by the knight.<sup>xlv</sup>.

The user of the pole in combat must have a strong and powerful hand to be able to use it effectively. The rider must hang it from the saddle hook at his left knee. If he wants to use it, he must use it harshly, forcefully, and with great force, to strike the enemy's nose and the front of his head, or to strike the nose of the animal. The user can break the enemy's sword and spear with it, as well as smash the enemy's helmet and all other weapons used by his opponent. He does not strike until he is sure that he will not miss the target.<sup>xlvi</sup>.

#### 5. Dagger:

The dagger is also included among the light and individual weapons, and Ibn Mankali explained:<sup>xlvii</sup>That is: ((As for the best daggers: the short one is for fighting the people of the sea if we enter their ships and it is good for engaging. As for the long one, it is not held like the short one, but rather it is held like a sword, and the short one is the opposite of that)), and with this Ibn Mankali explains to us the type of dagger and the circumstances of its use. It is clear that there are two types, the short one, as it was used in naval combat, as for the long one, fighting with it is more like a sword. Fighting with a short dagger is different from the long one, so each one has its own use. If the long one is used like the short one and vice versa, this will lead to a malfunction for its bearer that may cost him his life.

The dagger is a light, individual weapon that is widely used by people, not just soldiers and fighters. It is a personal and individual weapon due to its small size compared to other weapons. It was used by Islamic armies in general, and was particularly well known in the Ayyubid army. It was later used in the Egyptian army in the Mamluk era.<sup>xlviii</sup>

It is an iron knife with an ivory handle to make it easy for its holder to use. Daggers in the Egyptian army are of two types: the short one for naval combat and the long one for use like a sword. It has an effective impact in combat, especially in

surprise operations and secret assassinations of the enemy during penetration or ambush. It is a small weapon similar to the sword in all its specifications, except that it is smaller than the sword. Some of it is carried in the pocket, and it was usually carried in the waist. This weapon is still widely used in some areas of the world, especially in the eastern countries, especially among mountain peoples and desert dwellers.<sup>xlix</sup>

#### **6. Spear:**

Ibn Mankali pointed out that:<sup>1)</sup>How to use the spear in the four positions: ((Among the soldier's requirements are all movements in his saddle when needed to use the spear and the four eventual emphasis: the first: the frontal emphasis, the second: the Roman emphasis, also called the Levantine, the third: the Khurasani emphasis, and the fourth: the Yemeni emphasis, also called the Daylami)). The emphasis is the way of using the spear in combat. The frontal emphasis is to hold the spear from the bottom with your right hand and your horse's right cheek. The Roman emphasis is to take the spear in your right hand and place it under your right armpit and stick it to the horse's cheek. The Khurasani emphasis is to take the spear in your left hand and place the spear on your horse's left cheek near the horse's ear. The Daylami emphasis is to take the spear in your right hand and stick your right arm to the spear. These are the four positions for using the spear by an infantry or cavalry soldier, each according to their combat skill.

The spear is one of the light weapons used by the Islamic armies, both infantry and cavalry. It is a long wooden rod with iron points at one end to be used in striking opponents. The best type of spear is the strong, flexible one, so that it is more resistant to breaking when used in combat. The spear is used for stabbing and throwing at enemy or opponent camps.<sup>li</sup>

Spears are ancient war weapons, common among peoples, and their history is connected to nations famous for chivalry. They are a weapon of knights, made of forest wood or a hollow metal rod. The length of the spear is about three meters and its weight is about two kilograms. The points of Islamic spears were between forked or wide, thin, crooked, straight, and wavy.<sup>lii</sup>

The spear has parts that make it up to be a complete weapon in battles. Its parts include the shaft, the tip, and the pommel. The shaft refers to the wooden body of the spear, which forms the largest part of the spear's size. The tip is the metal part that is mounted at the front of one end of the spear. It is usually made of iron and has a pointed tip and sharp sides. It is mounted on the shaft, which is the killing part of the spear when used. The shapes of spear tips in the Islamic army were many, including forked, wide, thin, crooked, straight, and wavy.<sup>liii</sup>

As for the third part of the spear, the sticky part, it is a piece of iron, round in shape and slightly pointed at the ends, which is attached to the other end of the spear and is used to secure the spear in the ground and is also used for stabbing when necessary.<sup>liv</sup>

The spear is one of the basic weapons in terms of use by knights on the battlefields, and therefore the Mamluks in Egypt were interested and worked hard to teach it and mastered its use as a necessary weapon for the knight, especially since the spear is used in fighting opponents from a safe distance before the opponent reaches the knight, as the spear is long, especially when dealing with infantry fighters, as it can stab the opponent from a long distance.<sup>lv</sup>

The spear has many names and types, including the Qantariyya, which was used by the Crusaders, then its use passed to the Ayyubids and then the Mamluks. It is

made of beech wood and is also called the withered. The Frankish spear is another type, and the Sabir Bara spear is five cubits long and has wide, long points. The Dhari or Dhariyya spear is distinguished by the fact that the length of its point is a third of its length, and the hook at its head is a spear or two spears, one straight and the other crooked, used for stabbing and breaching walls. The Marbu' is a short spear.<sup>lvi)</sup>

## **Second: heavy weapons.**

### **1. Catapult:**

Ibn Mankali pointed out:<sup>lvii)</sup>To the importance of the catapult and mentioned that the Prophet Muhammadﷺ used it: ((And he set up the catapult on Taifﷺ He besieged them for eighteen days, and twelve Muslims were martyred and fought in it.ﷺ By himself, and the raid was in Shawwal)), and this is a clear indication that Ibn Mankali pointed to the importance of the catapult, and that is that the Muslims used the catapult to besiege Taif under the leadership of the Prophet Muhammadﷺ Year (8 AH / 629 AD) and this had good results in the siege, and the Messenger Muhammadﷺ The first person to throw a catapult in Islam.

The catapult is one of the most important military weapons used for sieges and fighting that Muslims knew during their history full of Islamic conquests. The catapult is a word derived from the Persian word (jak nilk), which means to rise upwards. The word is pluralized as manjaneeq and manjaneeqat. There are many opinions about the beginnings of the use of this weapon.<sup>lviii)</sup>

The catapult is a heavy war machine that works on the principle of a lever. It was used to throw stones, arrows, oil-filled bottles, and other fiery projectiles, whether during the siege of enemy castles and fortresses or to defend castles and fortresses from within. The catapult was also used in naval combat to attack enemy ships with the aim of destroying them by burning and sinking them with fiery projectiles.<sup>lix)</sup>

The catapult consists of a number of wooden columns connected at the top by a crossbar. On this crossbar is mounted a long wooden column called the arrow, which is short on one side and long on the other. This arrow carries a counterweight on its short side called the box, and on its long side it carries a machine that carries the projectile that is thrown towards the targets.<sup>lx)</sup>

The Islamic armies used various types of catapults in their wars, including the Arab, Persian, and Frankish (Roman) types. The Egyptian Mamluk army used three types of catapults: the Frankish, the Qarbaghiya, which is a type of catapult used for throwing stones, and the Shaitaniya. The Mamluk sultans in Egypt were interested in manufacturing catapults because of their important role in battles, especially in besieging castles and fortresses. The Egyptians made large and small catapults, especially the Shaitaniya.<sup>lxi)</sup>

Catapults varied in terms of projectiles:

- أ. Catapults were used for throwing arrows and crossbows. Several arrows were placed in one catapult and were thrown from it to long distances. In addition, the crossbows and arrows thrown in the catapults were accompanied by fire and others were without fire.<sup>lxii)</sup>
- ب. Catapults were used to throw stones to demolish fortresses built of large stones, some of which weighed up to ninety pounds in the Mamluk era, which is equivalent to forty kilograms. The stones thrown by catapults had an impact on the fortresses and caused holes in the walls, in addition to confusing those fortified inside the fortresses, forcing them to surrender.<sup>lxiii)</sup>

- ج. There is another type of special catapults for throwing and hurling scorpions, snakes, dead animals and filth to instill terror and confusion in the souls of the besieged.<sup>lxiv</sup>.
- د. Catapults for throwing oil pots. They are ordinary catapults with an iron pan suspended from the arm and their projectiles are pots filled with oil that are placed in the pan and thrown at the enemies after setting them on fire.<sup>lxv</sup>.
- ه. Catapults for throwing fireballs. The balls were made of materials treated with petroleum, then set on fire and thrown at enemies.<sup>lxvi</sup>.
- ز. Catapults for throwing bombs. They are similar to stone-throwing catapults in terms of operation. There are types of these bombs, including copper, glass, gas, luminous, and suffocating ones.<sup>lxvii</sup>.

## 2. The mighty cannons:

It is one of the heavy weapons used in battles. Ibn Mankali pointed out that:<sup>lxviii</sup>To her: ((If we leave the fortress, they will think that we have left them completely, so their concern is commendable. If we return after two days, and attack them suddenly, even if it is at night, it is better, and we will have prepared what we will throw at them at night, such as fiery arrows, terrifying cannons, and catapults, and that will be at the end of the night)).

Ibn Al-Mankali refers to one of the military plans through which the Islamic army can storm the enemy's fortresses. He explains that if the fortress is strong, the fighters must leave it so that those inside believe that it is a withdrawal of the armies besieging them, but in reality it is nothing but a military trick. This withdrawal continues for two days to give the impression that those who are fortified have not returned. After two days, the army returns and suddenly attacks the fortress, and this is done at night, and the fortress is bombarded with fiery arrows, cannons and catapults, and this is done at the end of the night. This is one of the most successful plans for storming fortresses.

Cannons were used by the Egyptian army in the Mamluk era, and they were given many names, including (the kohl stick) due to its resemblance to the eyeliner stick. Later, they were called (the cannon) because of the projectile's propulsion from the kohl stick towards the target. The Egyptians used large and small cannons, and the small cannons were called (the palms) and (the rifles).<sup>lxix</sup>.

The cannons were made of copper, lead and iron, and their working mechanism was to place a stone or a nut in the barrel, which would be emitted from a reservoir in front of the fire lit in the gunpowder, due to the pressure of the burning gunpowder. These cannons were placed in front of the army to destroy the targets drawn for the enemies or opponents.<sup>lxx</sup>.

Cannons were used alongside catapults in the siege of castles, whether during combat with enemies or during the conflict waged by the Mamluk sultans themselves and the princes in Egypt. They were also carried by naval ships for naval combat.<sup>lxxi</sup>.

Cannons were first used in Egypt during the reign of Sultan Ashraf Shaaban bin Hussein (764-783 AH / 1362-1381 AD). There were cannons in Alexandria made of copper and lead tied with iron ends, and some shooting exercises were carried out with them. The projectiles were a block of iron or oil bottles used to throw at fortresses and castles to burn them. This is considered the first use of cannons in the Islamic world.<sup>lxxii</sup>.

The discovery of gunpowder, how to use it, and the materials needed to manufacture it had a great impact in pushing the Mamluk sultans after Sultan Ashraf Shaaban to pay attention to developing and expanding the use of this weapon in wars

alongside other heavy weapons in offensive, siege, and defensive operations. The cannon had a great impact in changing the results of battles due to its great impact on the enemies, especially the fortresses.<sup>lxxiii</sup>

The interest in gunpowder cannons and the formation of their special teams from black slaves increased during the reign of Sultan Ashraf Qaitbay (873-901 AH / 1468-1495 AD), as well as during the reign of the Sultan's son Muhammad bin Qaitbay (901-905 AH / 1495-1499 AD). The Mamluk interest in cannons, their development and their use in battles remained stable until the reign of Sultan Qansuh al-Ghawri (906-922 AH / 1500-1516 AD). This was due to the increase in the Portuguese and Ottoman threats, which prompted the Sultan to pay great attention to the manufacture of cannons and experiment with them in launching projectiles to the furthest distances. Interest in them continued until the end of the Mamluk era.<sup>lxxiv</sup>

### 3. Firearms:

Firearms are one of the types of heavy weapons that Ibn Al-Mankali referred to.<sup>lxxv</sup> The worker or person in charge of firearms must be knowledgeable and aware of what he is entrusted with: ((As for what the zaraqeen rely on in times of war: each of them must know the weights of ammunition, the division of the wind, the controls of the cannons, the targets of their shots, the estimation of the probability of their heads and stones, the science of burning mirrors and the division of their degrees. In short, each one must do what he needs, and it is necessary not to disclose the craft of zaraqeh to anyone who is not trusted in religion.)) The zaraqeen are those who are charged with throwing fire at the enemies, and therefore it is necessary for them to surround themselves with the knowledge of the weights of ammunition, the directions of the wind, the measurements of the cannon, the targets that each type has a method of destroying, and the projectiles that must be used according to the target. It is also necessary to know how to use the burning mirrors by reflecting the sun's rays from them. Those who carry out this task must not disclose any information publicly so that this information does not fall into the hands of the enemy, as this information could be transmitted to the enemy through spies and spies.

The Egyptian army in the Mamluk era used firearms and there were many different methods for using them in battles. Oil and incendiary shells were used, which were thrown at the enemy's fortresses and castles, and from inside the fortresses at the enemy by means of catapults and cannons.<sup>lxxvi</sup>

The fire bombs were made up of a mixture of materials such as oil with sulfur, which is found around ancient volcanoes, oil with tar, which is a fatty liquid taken from the cedar tree, oil with resin, which is a gum from the pine tree, and oil with sandarac, which is a mineral found in the regions of Armenia. In addition to that, fire was also thrown at the enemies using flails, which are in the form of a hollow tube for throwing fuel at the enemies.<sup>lxxvii</sup>

As for gunpowder, Muslims knew and used it before others, as gunpowder was used in the Mamluk era, and the credit for that goes to Hassan al-Rumaah (636-695 AH / 1238-1295 AD), who was a chemical engineer from the Levant in the Mamluk era who studied gunpowder and explosives and has many publications, as he succeeded in preparing gunpowder and turning it into different and multiple forms to be ammunition for various weapons, and as a result, artillery weapons developed and were innovated to suit their new equipment (gunpowder).<sup>lxxviii</sup>

The Egyptians in the Mamluk era also knew guns and their use in the Egyptian army by preparing special gunpowder for them. Likewise, in the Mamluk era, the manufacture of different types of bombs was also known, some of which contained

poisonous and suffocating gases. They would burn them to emit poisonous fumes in the direction of the wind towards the enemy armies. When the enemy soldiers inhaled them, they would suffocate.<sup>lxxix</sup>

Despite the Mamluks' progress in their knowledge of firearms, especially gunpowder, the Mamluk sultans maintained traditional weapons and preferred them over firearms. This was reflected during their wars with the Ottomans, which led to their defeat at the hands of the Ottoman army, which began to develop firearms, especially rifles and other firearms, and developed them greatly, unlike the Mamluks. Firearms factories were increasing day after day throughout the Ottoman Empire, especially in the Levant. The Ottomans had adopted and learned firearms, especially gunpowder, from the Mamluks in Egypt and the Levant.<sup>lxxx</sup>

#### **4. Tank:**

The tank is one of the heavy weapons used to attack castles and fortresses. Ibn Mankali pointed out that:<sup>lxxxi</sup>To that: ((It is that the tanks are made convex, from the width, so that its forehead is wider than its back, to slide off its side what is thrown at it, then the crossbow is placed behind it so that no stone can hit them when they are thrown from above the wall, to prevent anyone who wants to harm the tanks)). Ibn Mankali indicates the use of convex tanks, and its sides must be wider than its back to provide the necessary protection for the wheels that the tank moves on and to protect the fighters inside, and behind the tank is a group of skilled crossbowmen who constantly shoot arrows at the enemy so that no one can get close to the tank until it reaches the enemy wall.

The tank is a war machine used to besiege fortresses and castles where opponents or enemies are fortified. The tank was given this name because when it moved, it made a crawl and moved slowly. At the beginning of its appearance on the battlefield, it was called a crawler. In its shape, it resembled a tower, and it was made up of several layers: the first layer was made of wood, the second of lead, the third of iron, and the fourth of brass. It was covered with leather soaked in vinegar to protect it from enemy fire that was thrown at it, and also to provide the necessary protection for the fighters who were fortified inside it from arrows and stones that were thrown at them from the tops of the besieged castles or fortresses.<sup>lxxxii</sup>

The tank is heavy due to its weight and the fighters inside it. It runs on several wheels on its sides, and moves by being pushed by the fighters towards the walls of castles and fortresses during the siege. Upon arrival, those inside it carry out excavation and digging work to demolish the walls or prepare to climb the walls. Some tanks were also used to demolish walls by means of the ram head that was fixed to its front.<sup>lxxxiii</sup>

#### **5. Horoscopes:**

Towers are among the heavy weapons used in wars, and Ibn Mankali referred to them.<sup>lxxxiv</sup>: ((And likewise the towers that shake the fortresses and whatever he wants, all of them and their symbols from these placed instruments, the mention of the triangles and they are of different qualities and types and they are sufficient for the armies if they are stacked, and among them is the hexagonal, and the hexagonal has three prongs, and the triangles have two prongs that stand in the ground)), Ibn Mankali shows us that the towers were also used by the Islamic armies to attack the fortresses and castles besieged by the Islamic army and they have shapes including the triangular, and among them is the hexagonal with six sides, and in them is a group of soldiers trained to climb the walls in the event that the towers reach the walls of the castles and fortresses.

The towers are a war machine for fortresses and castles. They are mainly used to storm fortresses and castles. In its form, it is a moving tower made of wood covered with iron or leather to withstand enemy blows directed at the tower. The tower contains a group of fighters trained in how to use ladders and rush into fortresses and castles. These towers move towards the walls by means of wooden or metal wheels. The tower consists of layers, and these layers are connected to each other by an internal staircase. At the top of the tower, there are ladders that are thrown onto the enemy wall in the event of reaching the besieged fortresses and castles. Then the fighters climb by means of this ladder towards the enemies.<sup>lxxxv</sup>

The towers were made of good wood such as pine acacia and the Mamluk army used the towers in its wars, as happened in the siege of Acre to expel the Crusaders from it, during the reign of the Mamluk Sultan Ashraf Khalil bin Qalawun (689-693 AH / 1290-1293 AD), as Sultan Ashraf Khalil ordered his armies to move towards Acre and descend upon it and besiege it by land and sea and continued the advance and fighting and set up catapults and towers on its walls and fought for forty days until he conquered it by force in the year (691 AH / 1291 AD)<sup>lxxxvi</sup>.

### **Third: Light defensive equipment**

#### **1. Helmet:**

A Persian term given to all the covers that provide the necessary protection for the head during battles. It is a cap made of iron or steel and is sometimes made of zard, which is metal rings connected to each other to form a head cover. It is lined on the inside with cotton or sponge fibers to provide the greatest degree of stability on the head and also to protect the head from direct friction with the iron, which leads to discomfort, and to absorb the greatest degree of shocks.<sup>lxxxvii</sup>

Ibn Mankali pointed out:<sup>lxxxviii</sup> On how and how to use the helmet: ((Here is a joke that the Mujahideen should know: How to place the helmet on the head. The hat's lining should be thick, meaning a lot of stuffing is done so that the helmet does not slip on the nose due to clothing. Understand that and you will be guided. The helmet's padding should be made of narrow, squidgy sponge, as that prevents the effect of a strong blow if it falls on the helmet. The wisdom in that is that the large amount of foam in the sponge disperses the material of the blow.)) For every weapon, whether offensive or defensive, no matter how effective it is in battle for the benefit of its users, sufficient knowledge and training is required on how to use it. Therefore, we see Ibn Al-Mankali explaining in his statement above how to wear a helmet correctly during battle.

The helmet was also called the egg due to its shape, and its front part was called (the qons), and its back part was called (the ha'ira). The shapes of helmets differed among Muslims, so what was used in the Islamic Maghreb differed from that used in the Islamic East. The types of helmets used by the Egyptian army in the Mamluk era were many, as they wore the white helmet, the helmet (made up of iron rings to protect the head and neck from blows or sometimes from the skin), the turbaned helmet (similar to the turban), the matching helmet (its onion shape also resembles the spiral turban) and other helmets that varied in the Egyptian army according to the chronological development of weapons as well as the difference in military ranks.<sup>lxxxix</sup>

#### **2. Shield:**

It is the clothing worn by the fighter so that he does not get any harm or wounds resulting from the blows of various weapons in battles. This name (shield) was given in particular to the shirt, which forms the basic fortress to protect parts of

the body. The shields used by members of the Egyptian army in the Mamluk era varied according to the method of making them, the materials used, and also according to the military ranks.<sup>xc)</sup>

Shields were made of iron rings interlocked with each other to form a protective garment for the body, or sometimes from metal plates or thick leather, under which another garment was worn stuffed with cotton or felt (a piece of cloth made from wool) to provide more protection for the fighter's body, because it was not permissible to place the shield directly on the body, as this would cause more harm to the fighter, and would restrict the free movement that the fighter needed during combat. The more flexible the fighter was in his movement, the more he could avoid his opponent's blows on the battlefield.<sup>xcj)</sup>

The shields used in the Islamic army, especially the Egyptian army in the Mamluk era, had many types, as we mentioned above. Among them was the previous shield that covered the entire body, the (Petra) shield, which was also complete but without sleeves, meaning it did not cover the arms and reached the knee, the (Dha'ila) shield, meaning it had a tail or tail feathers in the front and back, and the (Zafah) shield, which was characterized by being soft and wide. As for the (Mudazifa), it was made of overlapping rings, and the (Nashra) was shaped like a group of iron chains, as for the (Nashala) shield, it was loose and wide, and the (Masroda) was also made of iron rings, and the (Sik) was a tight-fitting garment for the body parts, while the (Lama), which was the last type, was a complete shield with its accessories.<sup>xcii)</sup>

### **3. Gear:**

It is one of the defensive weapons of the fighter that was widely used in the Islamic armies. It is a semi-oval-shaped plate made of either wood, iron or leather, which the fighter carries during combat to protect his body and face from the blows and throwing that he might receive from the sword, spears, arrows and various weapons. Shields were made in different regions of the Islamic state and in different shapes, and each region or country had its own style. There was the Damascene shield, the Baghdad shield, and the Granadan shield.<sup>xciii)</sup>

The types of shields used in the Egyptian army in the Mamluk era varied in terms of their manufacture and the weapons they faced. The shield had an internal handle through which the fighter held the shield, called (the samut), and the fighter put his head in the part called (the khamliyya). Many names were given to the shield in the Islamic world, the most important of which are: the shield, the hagga, and the mujan.<sup>xciv)</sup>

There are many types of shields, including the (special) one, which is used by knights in particular to provide the necessary protection for the upper half of the body as a whole, the (round) shield, which is a shield with a round shape and curved edges on the side of the holder and has a prominent top from the outside so that spears and arrows slide off it, the (domed) shield, which is a shield with curved edges to the outside, is used to provide protection for its holder from sword strikes, arrows and stones, as for the (flat) shield, it is used to repel and protect from spear strikes and stabs, as for the (engraved) shield, it is suitable for protection from all types of strikes, the (oval) shield can be worn on the back of the fighter to provide protection for its holder's back from the enemy's arrows, and the (treachery) shield was used by Muslims during the Crusades, as for the (Norman) shield, its shape resembles a triangular kite.<sup>xcv)</sup>

#### **Fourth: Heavy defensive means**

##### **1. Forts and castles:**

It is one of the heavy and large defensive means, as Ibn Al-Mankali referred to it, saying:<sup>xcvi)</sup>((The origin of the experience of the virtuous: The fortresses of the house are the lofty castles, on which only walls are built, they are the castles, dungeons, mountains, forests, cities, trenches, mud, and highlands, all of these and what is similar to them are fortresses and strongholds)) So the fortresses and castles according to the view of Ibn Mankali are not as is firmly established in the minds that the fortresses and castles are the buildings that are built in high and lofty places, but rather it includes the dungeons and the plural of tammoura which is a place underground and is considered a fortified place underground.<sup>xcvii)</sup>As well as the mountains and forests, which are places where trees abound.<sup>xcviii)</sup>As well as cities, trenches, sand, mud, and highlands, all of the above are considered defensive fortresses and castles.

One fortress may have several types of all these types, each of which has different types of work and management, and the way it is fought against its inhabitants, like castles and cities, for they contain what requires patience and endurance.<sup>xcix)</sup>

The defenders of the fortress must be fully prepared to defend their fortress, and there must be special signals between the owner of the fortress and his people, by which they know his words, and the gate of the fortress should not be opened at night, even for its owner, due to the possibility that the owner of the fortress has fallen into the hands of the enemy.<sup>c)</sup>

In the event that the fortress is besieged or attacked, the defenders must have the spirit of patience, bravery and steadfastness to deter the enemy besieging their fortress.<sup>ci)</sup>The fort must contain special stores for the weapons needed and prepared to defend the fort, as well as providing and facilitating the necessary administrative affairs for the soldiers, such as food, equipment and supplies necessary for the fighters in order to sustain steadfastness and defend the fort.<sup>cii)</sup>

The commander in charge of protecting the castle or fortress must carry out a set of security measures on an ongoing basis based on great caution and wariness, and distribute soldiers on the fortress walls in the form of guard points or small towers, as well as follow up on the supervision of the performance of this task by the fortress official. In this way, the guards monitor the movements of the enemy besieging them, and the fortress soldiers must be ready to fight with weapons and full equipment.<sup>ciii)</sup>

The Mamluk Sultans in Egypt were interested in building castles and walls to confront the dangers that surrounded the Mamluk state. Sultan Al-Zahir Baybars (658-676 AH / 1260-1277 AD) built the walls of the city of Alexandria, and built a lighthouse for the Rashid port to see the ships of the Franks.<sup>civ)</sup>

Because of the repeated attacks of the Frankish army on Alexandria and the Ottoman threats, especially in the last period of the second Mamluk state (784-923 AH / 1382-1517 AD), the Mamluk sultans directed their great attention to the strategic areas in the Mamluk state, as Sultan Qaitbay (873-901 AH / 1468-1495 AD) built towers in Rashid in the year (876 AH / 1471 AD) and in Alexandria in the year (882 AH / 1477 AD)<sup>cv)</sup>.

The Mamluk Sultan Al-Ghourī (906-921 AH / 1501-1516 AD) also took an interest in fortifications, so he built towers and walls in Rashid and Jeddah, and built the Tina Castle on the shore of Lake Manzala. Sultan Al-Ghourī also took an interest

in the Alexandria Castle and took great care of it. He also built the Aqeeq Castle and the Nakhhal Castle and fortified them well.<sup>cvi</sup>

## **2. The hasak and the triangles:**

It is one of the defensive fortifications that is very effective in obstructing the enemy's advance towards the fortresses and castles. In wars, the army must be careful not to fall into such ambushes because that harms the horses and the like. Ibn Mankali pointed out (<sup>cvii</sup>)To that end, ((As for protection from being struck by horses and the like: by rivers, trees, thorns of wood and iron, mud, mounds, hills, hair, arrows, between rocks, ruins, cliffs, and inverted places and their surroundings)) All of these things must be avoided by armies, and especially cavalry, entering into such places because it leads to harm to horses.

The hasak and the triangles are a tool made of iron or wood, and they are called hasak in the Arabic language, and they are plants whose fruit is attached to the wool of sheep, and they are called triangles due to their shape formed in the form of triangles, and they are tools of war consisting of a piece of iron with branches of material that is thrown around the camps or in front of the horses to obstruct them, and the hasak made of iron had a dangerous effect and was very effective on the enemy, and many armies were saved from the danger of encirclement or capture by the enemy due to this machine (<sup>cviii</sup>).

The thistle was often used as an ambush for enemies to knock their horses to the ground along with the riders on them, as it had a significant effect on the horses' feet and prevented them from moving. Some of them were coated with toxic materials that could lead to the death of the horses or the person who injured his foot with them.<sup>cix</sup>

Because of the importance of spikes and triangles in defensive battles and the increased effectiveness of this machine in influencing attacking armies, the Islamic armies took an interest in it by manufacturing it more. The spikes were made in different shapes: triangles, hexagons, and hexagons. They had three spikes that were fixed on the ground however you threw them. These spikes were sharp and were often coated with poison to make them more effective, not only in wounding but also in poisoning to death.<sup>cx</sup>

## **3. Curtains:**

Curtains are heavy defensive fortifications used by various armies in the world, including Islamic armies. They include wooden earthen barriers to provide the necessary protection for soldiers and their military equipment. These curtains are placed in front of the army to protect them from enemy attacks, which include various weapons and shells. Ibn Mankali pointed out (<sup>cx</sup>)To mention the curtains: ((The construction of catapults and the curtains: the walls, the curtain, the thick wood, digging tunnels, roofing them, and throwing firewood over them)) Everything that Ibn Al-Mankali mentioned in the previous text is considered a defensive means.

Wooden curtains were used in naval combat to provide the necessary protection for ships from attacks by enemy burning ships. They were also used to protect sappers while they were digging holes in the walls, castles and fortresses of the enemies when the Islamic army besieged them. Curtains were also used to protect the catapults that were set up to throw projectiles at the castles and fortresses of the enemies. In such cases, the curtains were a wall of wood or braided ropes or both, with the ends made of wood and these woods were stretched together with braided ropes.<sup>cxii</sup>

The Egyptian army in the Mamluk era used many curtains in various forms during the siege of enemy castles and fortresses. They also built defensive curtains in the event that their areas were exposed to enemy attacks. The Mamluks were interested in providing curtains for the catapults installed in front of enemy castles and fortresses, as well as in their fortresses during their exposure to attacks. In the siege of Acre, Sultan al-Zahir Baybars used curtains in the year (669 AH / 1270 AD) to protect the catapults installed.<sup>cxiii</sup>

#### **4. Trenches:**

It is one of the defensive means that Ibn Mankali referred to.<sup>cxiv</sup>((By the blessing and help of God, dig a trench between your army and the enemy's army, then appoint someone to fill it with thorns, straw, grass, or whatever you like that fire eats. Then appoint someone to make a rope of tow as long as that trench. Place it in the trench after moistening it with supplied water and oil and watering it softly. Place its end at the edge of the trench and assign one of the men to each end.)) The trenches that were dug were for a desired purpose: to stop the enemy's advance. They were filled with dry plants that burn quickly if fire reaches them, such as weeds, thorns, and other plant remains. When the enemy reaches the trench, there must be a rope soaked in oil or any material that facilitates the burning process. This rope is placed inside the trench. At both ends of the rope there are two or more people whose job is to light fires in the rope by order of the commanders so that they can harm the enemy soldiers with fire and terrify their horses, which leads to the failure of their attack.

Islamic armies have followed the trench method since the days of the Prophet Muhammad.ρWhen he dug a trench on one of the outskirts of Medina during the Battle of the Trench in the year (5 AH / 726 AD), it had a great impact in preventing invaders from entering the city.<sup>cxv</sup>

The Egyptian army also followed the method of digging trenches in the Mamluk era as a defensive means to repel enemy attacks and prevent them from storming the Mamluk camps and cities. The trenches were varied and different in one direction and varied in depth according to the enemy's strength and military and combat capabilities.<sup>cxvi</sup>

Among the Mamluk sultans who were interested in trenches was Sultan Al-Zahir Baybars in the year (659 AH / 1261 AD), as he dug many trenches around the castles, and he also dug a trench around the Cairo Citadel in the year (872 AH / 1469 AD)<sup>cxvii</sup>.

#### **5. Fuels:**

All types of fuels are also a defensive means, as Ibn Mankali pointed out.<sup>cxviii</sup>To that end, ((by the blessing and help of God Almighty, place statues in front of your army. At every hundred cubits, a mound of thorns, reeds, straw, grass, or whatever fire eats, and sprinkle over it some of that water and blue oil. Then, someone will pass by to sprinkle the ground from the other mound with that water, then oil the size of a sling about a cubit wide, so that some of the firewood reaches the others with that water and oil. And place one of these mounds close to you and appoint a man to strike it with fire if you order him to do so.)) When you know that an enemy attack is imminent, it is possible to make a defensive method with fire by placing appropriately sized piles of plants that ignite quickly and sprinkling them with materials that aid combustion, such as oil, and making those piles connect with each other while burning with oil. And appoint a special person to carry out the burning process after he has been ordered to do so.

The Mamluks followed this type of fortifications in Egypt and the Levant during the wars with the Tatars, by allocating a group of men to cultivate the border areas adjacent to and close to the Tatars. When the Mongol army advanced into the lands of the Mamluk state, these men would burn the farms so that they would not benefit from these farms as supplies for the army and as fodder for their animals. It also constituted a signal of the arrival of the Mongol army so that the Mamluk army would prepare for confrontation and a defensive means to obstruct the advance of the Mongols.<sup>cxix)</sup>

In return, the groups based on this had been allocated by the Mamluk state sums of money from the state's general treasury, and these people always lived in their areas of work, which were the nearby Islamic borders that formed the borders of the Mamluk state with the Tatars.<sup>cxx)</sup>

It is also possible to use fire to open the doors of castles and fortresses during a siege by placing a pile of wood in front of the fortress door and sprinkling it with combustible materials. When strong winds blow, the wood is burned, thus burning the door and opening it.<sup>cxxi)</sup>

### **Conclusion:**

After exploring Ibn Mankali's thought and the precise information he left behind in his military works, it becomes clear that this commander was not merely a transmitter of the experiences of his time, but rather a military theorist with a comprehensive vision of the war machine and its practical dimensions. He viewed light weapons as the primary pillar in the hand of the fighter, one that the soldier would not only use to defend himself, but also to build a well-rounded fighting character, combining courage, discipline, and skill. Conversely, he attached great importance to heavy weapons, as they represented the decisive tool in the siege of cities and castles, revealing the Mamluks' ability to adapt to the challenges of changing times..

His interest was not limited to attack. Rather, he realized that defensive fortifications - from individual shields to forts and trenches - were the last line of defense for the state, and that victory depended on the army's ability to combine combat tools and means of protection in a single, integrated system. Through this comprehensive awareness, Ibn Mankali emerged as a witness to the Mamluk military mentality that combined authentic Islamic heritage with renewed field experiences..

This research not only sheds light on one aspect of the history of weapons, but also highlights how military thought in the Mamluk state was a reflection of the interaction of science with experience, and knowledge with practice. Thus, it can be said that the study of weapons in Ibn Mankali's thought is not merely a documentation of the past of wars, but rather an attempt to understand the Islamic military mind, which realized early on that war is not an abstract material force, but rather a system of science, organization, and management..

### **Footnotes:**

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- (ii) Ghawanma, The Ayyubid Emirate of Karak, p. 372.
- (iii) Haji Khalifa, Mustafa bin Abdullah (d. 1067 AH / 1656 AD) Kashf al-Zunun an Asma' al-Kutub wa al-Funun, edited by: Muhammad Abd al-Qadir Atta, Dar al-Kutub al-Ilmiyyah (Beirut: 1971 AD), Vol. 2, p. 280.
- (iv) Khair al-Din al-Zarkali, Al-A'lam Dictionary and Biographies, Dar al-Arifeen, 15th ed., (Beirut: 2002 AD), Vol. 6, p. 112; Arranging the Personalities by Year, edited by: Zuhair Zaza, Dar al-Qasim for Printing and Publishing, (Beirut: n.d.), Vol. 1, p. 482.
- (v) Jalal al-Din Muhammad ibn Mahmud ibn Mankali Bugha al-Qahiri (d. 784 AH / 1382 AD), Official Evidence in Military Expressions, edited by: Mahmoud Rashid al-Khattab, Al-Ilmi al-Iraqi Press, (n.d.: 1988 AD), Official Evidence, p. 91.
- (vi) Ibn Mankali, Official Evidence, pp. 162, 240.
- (vii) Sultanic Measures in the Policy of Military Industries, edited by: Sadiq Mahmoud Al-Jumaili, Ph.D., (Baghdad: 1983 AD), p. 33.
- (viii) Ibn Mankali, Official Evidence, p. 43.
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