

quently have no visible connection with the behavior or characteristics of the wearers. Fig. 536.

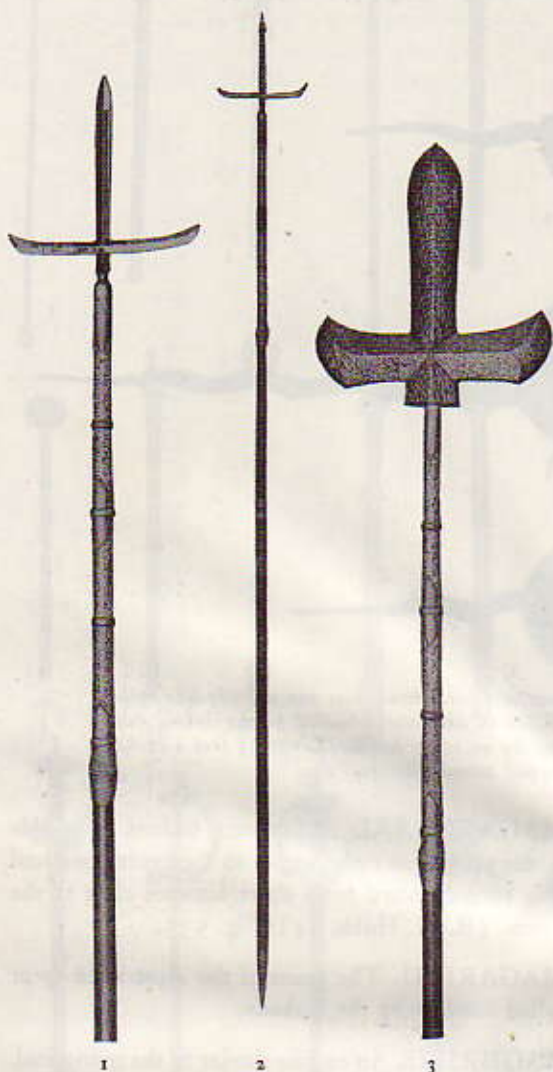


FIGURE 535. *Magari Yari*. Head 9.5 inches long and 8.75 wide. The shaft is of *kashi* wood partly covered with same and banded with metal. Length overall 8 feet 7 inches. The sheath is lacquered red. 1. The head unsheathed. 2. The entire trident. 3. The head sheathed.

Maidate is used as a general name for all kinds of crest-like objects worn on the helmet; specifically it means only one worn in front. If worn at the back it is called *ushiro-date*; if on top *kashira-date*; if there are two, one on each side, *waki-date*. Occasionally one is worn reaching from side to side across the top. 2, fig. 536.

MAIL. The breast feathers of a hawk.

To mail a hawk is to wrap it in a sock or piece of cloth, so that it is in a kind of straight jacket. This is done when the hawk's claws or beak are to be trimmed (coped) or when a surgical operation is necessary. (Phillott 59 note).

MAIL, CHAIN MAIL. The earliest mail was made of rings sewed on leather, fig. 29, and was extremely heavy as the links were large. "The heaviness of mail was considerably relieved by the adoption, about the early part of the 12th century, of the Asiatic species, formed of rings connected to each other, and so held without being fastened upon a leather garment beneath." (Fairholt 162). At the present time the name is confined to armor made of interlaced links.

In the poorest kinds the links are made of wires bent to form rings, the ends not being fastened together. This kind was rarely used in Europe, except in some very late armor, but is fairly common in the East where it is mainly used for minor pieces, such as the neck guards of helmets and collars though entire suits were made of it, particularly when they were made partly of iron and brass links arranged to form patterns. The Japanese mail is always made of unriveted links, but the wire is very hard and highly tempered so that the mail is as strong as the riveted. The links are frequently made of coils of two or three turns, giving the effect of two or three links side by side, nos. 1, 2, 3, fig. 537. Such mail is quite as strong as any riveted. Most of the wire used in the East is harder and stronger than that used in Europe.

Sometimes the ends of the links are apparently welded, but usually they are riveted. In rare cases two, and even three, rivets are used to make the joint. Triangular rivets are said to have been used in Europe in early times. I have not been able to find any evidence of this. In pieces of early mail examined at the Metropolitan Museum the holes were round and it is not likely that triangular rivets were used in them. The early European double riveted mail was sometimes made of a U-shaped rivet bringing both of the heads on one side of the link with a straight bar connecting them on the other. In the East the rivets were always round; and if more than one was used they were entirely separate. In some of the mail made in the Caucasus the ends of the links were apparently welded and stamped to imitate rivet heads. In the Museum of Lucerne



there is a shirt of mail (no. 27 marked 17th century), each link of which is made of a coil of two turns, the ends being slightly overlapped and sol-

Except for certain varieties of Japanese mail to be described hereafter, in all of the mail that I have examined each link passes through four others in a

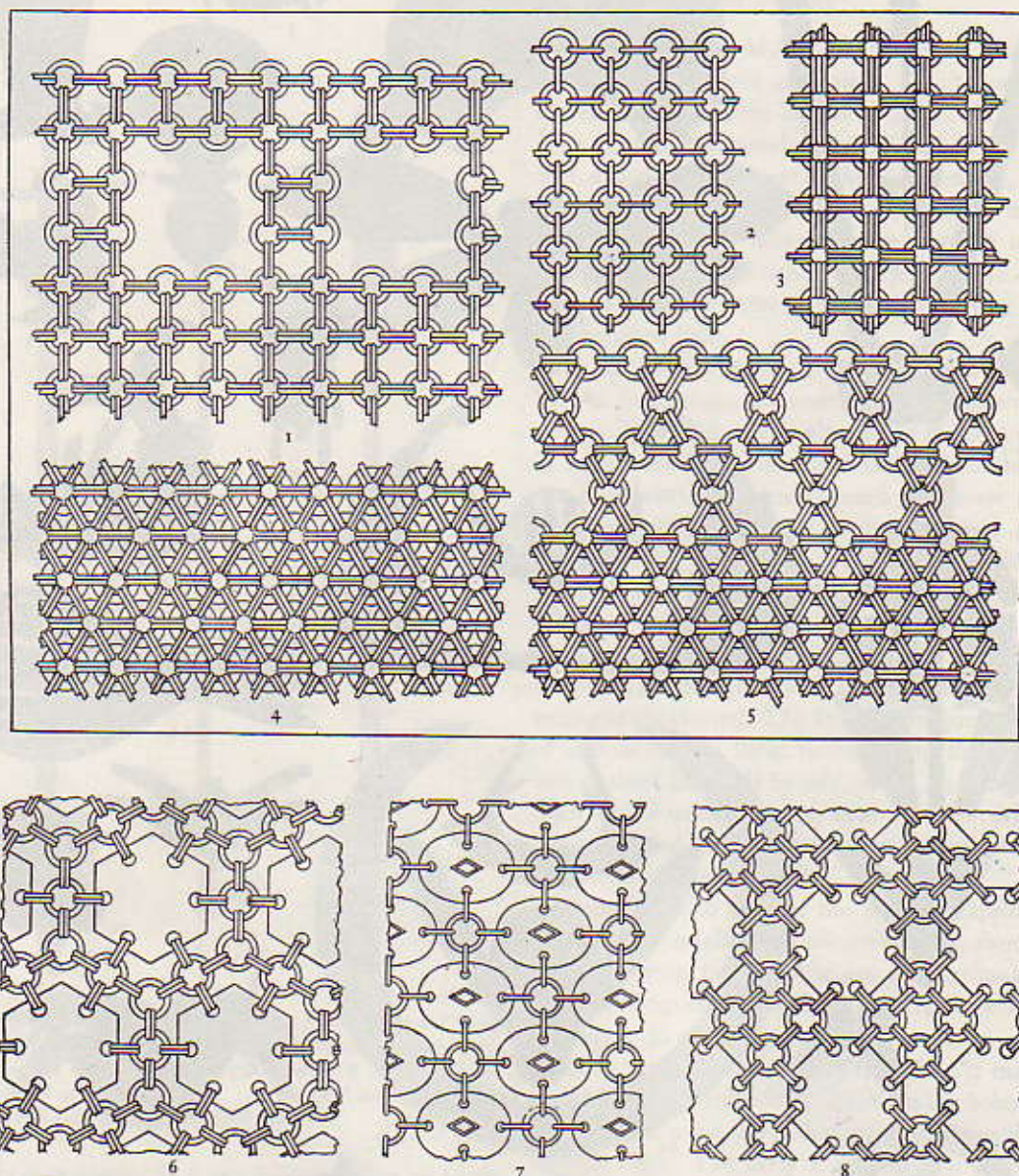


FIGURE 537. Japanese Mail. 1. Square pattern, links of two turns. 2. Square pattern, links of one turn. 3. Square pattern, links of three turns. 4. Hexagonal pattern, wide center links. 5. Hexagonal pattern, narrow center links. 6. Hexagonal plates connected by mail. 7. Elliptical plates connected by mail. 8. Octagonal plates connected by mail.

dered. It has the appearance of two links side by side. In the Field Museum, Chicago, there is a suit of late mail that is made of short bars with an eye at each end, the eyes being interlocked. Fig. 538.

regular pattern so that the links lie flat, 1, 2, 3, 4, fig. 539. Baron de Cosson says (*Helmets and Mail* 110): "Thus in the British Museum there is a standard of mail of which the rings of the top edge are



exceedingly close and stiff, and the usual arrangement being altered, so that six rings go through the seventh, not four into the fifth." Others who have carefully examined this piece disagree with him, and

I believe that he is mistaken as I have been unable to arrange combinations of seven links that would lie flat, as well made mail must do. The question is rather important as the very close mail he speaks of is known as "double mail" which is so closely woven that there are no visible openings between the links. All of the examples of double mail that I have examined are made in the ordinary manner, each link passing through four others, but the links are much wider than usual. It is obvious that if the



FIGURE 538. Late mail gauntlet, 17th century. Field Museum, Chicago.

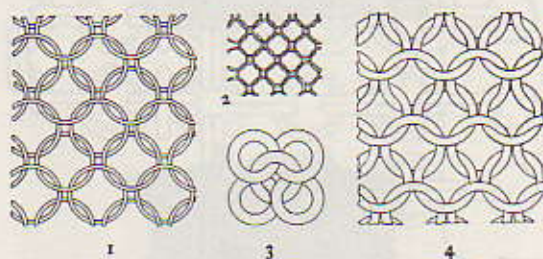


FIGURE 539. Ordinary, or International Mail. 1. Light links separated to show how they interlock. 2. Small links. 3. Group of five links only. 4. Mail of heavier links touching each other as they would when worn.

width of the link is more than half of the internal diameter there can be no opening. Fig. 540 illustrates the gradual disappearance of the opening between the links as the internal diameter of the links decreases. The outside diameter of the links in all four drawings is the same.

Mail has been made and used from very early times by almost every race that used armor. The Chinese are about the only exceptions as they, apparently, never made it, although they occasionally wore mail procured from the Persians. The type of mail described above was used everywhere. In addition to it other types have been used in more or less restricted areas. In the Musée de l'Armée in Paris there is a fragment of Etruscan mail, fig. 541,

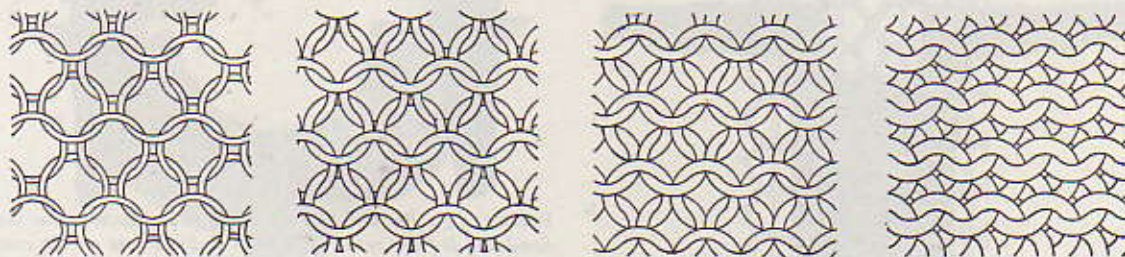


FIGURE 540. The transition from ordinary to double mail. In all four drawings the outside diameter of the links is the same but the inside diameter gets progressively smaller, closing the openings.



that is illustrated in de Cosson and Burgess, *Helmets and Mail*, that is quite different in character, and looks much like some of the Japanese. During the middle ages but one species of mail was used in

ments, inlaid or stamped on each link. Especially in India and Persia the collars and capes of helmets, and sometimes entire suits, are decorated with patterns in brass and copper links, 1, fig. 64. Usually

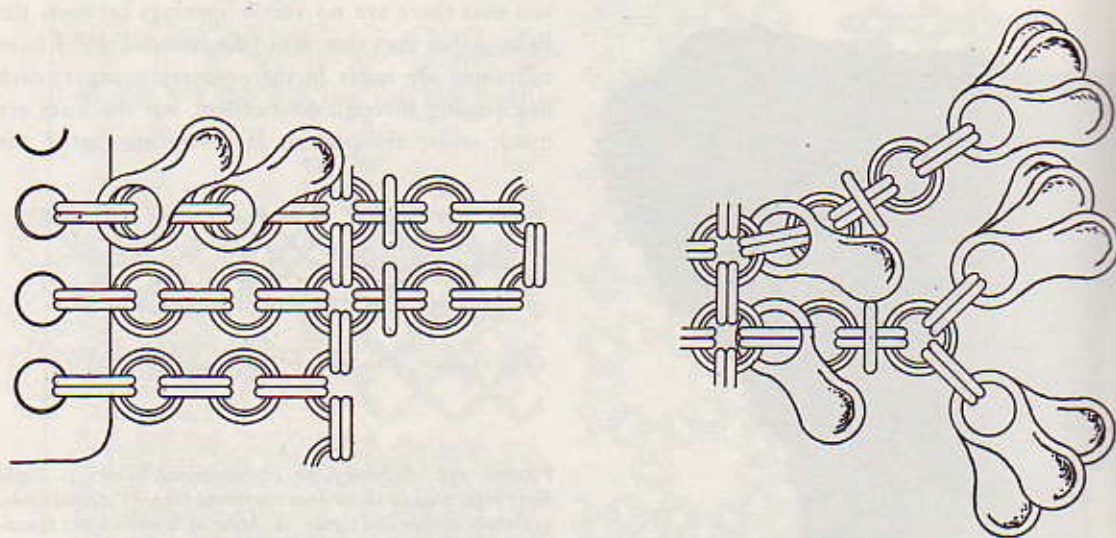


FIGURE 541. Etruscan Mail. From de Cosson and Burgess, *Helmets and Mail*.

Europe, fig. 539. In the 17th century occasional specimens are found of different construction. In addition to the two already described, Dr. Dean had a shirt of Italian mail that closely resembles the Japanese type, 1, fig. 537, but differs from it in having all of the links circular. In Persia and India mail was often made of alternate rows of links cut from a plate each with a bar across it, and ordinary round links. Each link is connected to four of the other kind but not to any of its own. It is known as "bar link" or "theta" mail, from the resemblance of the barred link to the Greek theta. Fig. 542.

European mail is rarely, if ever, decorated, but Eastern mail sometimes has inscriptions, or orna-

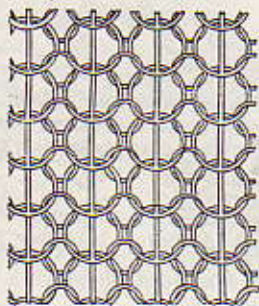


FIGURE 542. Indian Bar-Link, or Theta mail.

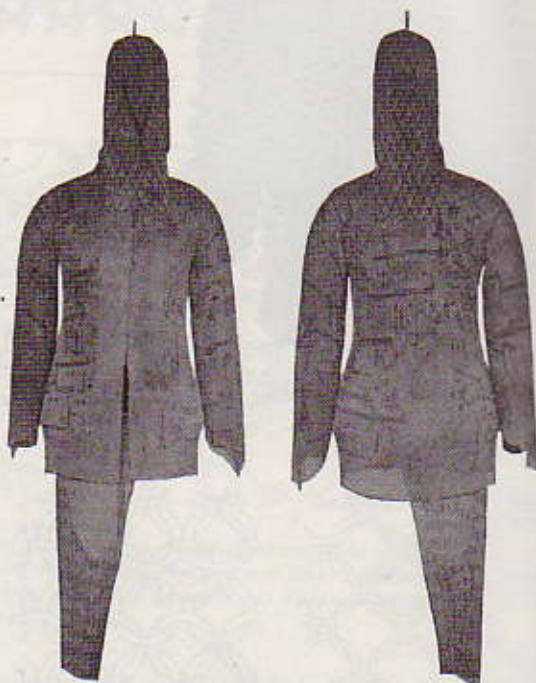


FIGURE 543. Persian Suit of Mail. The patterns on the hood and leg are made with brass links. Those on the coat are of copper and brass, and form an Arabic inscription. There is a broad strip of double mail on each side of the front.



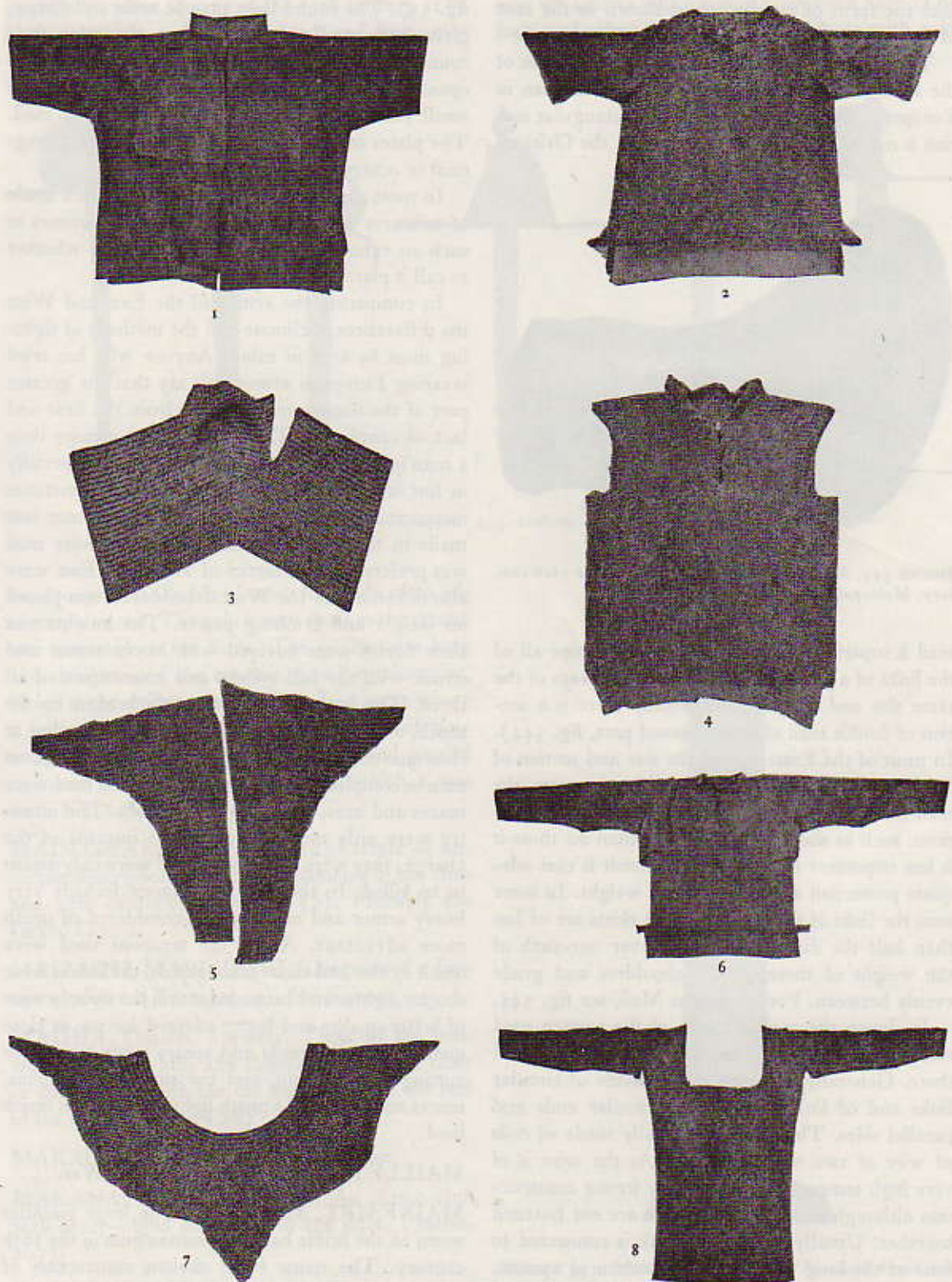


FIGURE 544. *European Mail.* 1. Coat of mail, German, 15th century. The collar and chest are of double mail. 2. Shirt of mail, 15th century. 3. Brayette, German, 15th century. 4. Shirt of mail, German, 16th century. 5. Gussets of mail, 16th century. 6. Shirt of mail with extra pieces guarding the shoulders and armpits, 16th century. 7. Gorget, German, 15th and 16th centuries. 8. French, 19th century. Probably made for export to the colonies. Metropolitan Museum. Not to scale.



the patterns are geometrical but in rare cases they take the form of inscriptions as shown in the coat of fig. 543.

There is a much greater variation in the sizes of the links and wires used in Oriental mail than in European; and wire of elliptical or rectangular section is not uncommon. In one respect the Oriental

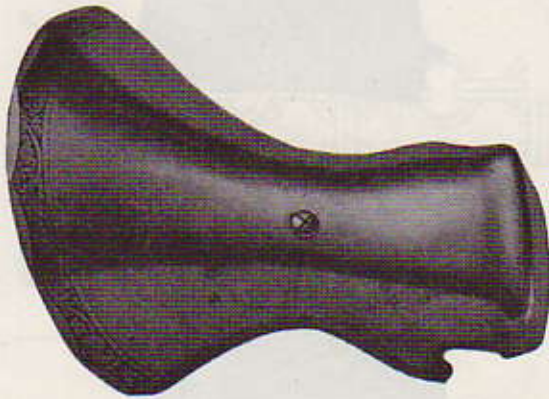


FIGURE 545. *Mainfaire*, German, middle of the 16th century. Metropolitan Museum.

mail is superior to the European. In Europe all of the links of a piece, or suit, are nearly always of the same size and weight (occasionally there is a section of double mail at some exposed part, fig. 544). In most of the Eastern suits the size and section of the links varies considerably in different parts, the mail being much heavier on the more exposed portions, such as shoulders and chest, than on those it is less important to protect. The result is that adequate protection is given with less weight. In some suits the links at the bottom of the skirts are of less than half the diameter and not over one-sixth of the weight of those on the shoulders and grade evenly between. For European Mail, see fig. 544.

In Japan the mail is rarely of the pattern used everywhere else, though such mail is sometimes used there. Generally Japanese mail is made of circular links and of links having semi-circular ends and parallel sides. The latter are usually made of coils of wire of two or three turns. As the wire is of very high temper this gives a very strong construction although the ends of the links are not fastened together. Usually each round link is connected to four of the long ones, giving a pattern of squares, 1, 2, 3, fig. 537. Sometimes the round link is joined

to six long ones, giving a pattern of hexagons, 4, 5, fig. 537. The round links may be wide and flat, 4, giving very small openings between the links; or of round wire making the mail much lighter and more open. Other types of Japanese mail are made of small plates of regular forms connected by mail. The plates may be round, square, elliptical, hexagonal or octagonal. 6, 7, 8, fig. 537.

In most parts of the East armor was often made of mixtures of small plates and mail; sometimes to such an extent that it is difficult to know whether to call it plate or mail. Fig. 58.

In comparing the armor of the East and West the differences in climate and the methods of fighting must be kept in mind. Anyone who has tried wearing European armor will say that the greater part of the inconvenience came from the heat and lack of ventilation. The weight was not more than a man in decent training could bear; but, especially in hot weather, the lack of ventilation sometimes incapacitated as many as wounds. Plate armor was made in the East but the lighter and cooler mail was preferred. The tactics of West and East were also different. In the West dependence was placed on weight and crushing power. The knights and their horses were covered with heavy armor and struck with the full weight and momentum of all three. The lances were frequently broken by the shock, and even if not broken they were useless at close quarters. Swords were practically useless against men in complete armor, and the weapons used were maces and axes, purely smashing ones. The infantry were only meant to check the impetus of the charge; they were mainly serfs and were only meant to be killed. In the East the climate forbade very heavy armor and mobility was considered of much more advantage. All of the weapons used were much lighter and more manageable, the lances were shorter, lighter and better balanced, the swords were of better quality and better adapted for use at close quarters. Both swords and spears were meant for cutting and piercing, and the smashing weapons, maces and axes, were much lighter and not as much used.

MAILLET DE FER. See Hammer, War.

MAINFAIRE, MAINFER. The large gauntlet worn on the bridle hand in tournaments in the 16th century. The name is an obvious contraction of *main de fer*. (ffoulkes 76). Fig. 545.