A SUIT OF ARMOUR IN THE TOWER OF LONDON.

By The Viscount DILLON, M.A. F.S.A.

There is now in the Tower of London a remarkable suit of armour for fighting on foot in the lists (plates I and II). This suit cannot be identified with any in the Inventory of Arms and Armour at Westminster, the Tower and Greenwich of 1547.[1] It evidently belongs to the early part of the sixteenth century, but has no armourer's stamp or other mark by which to form an opinion as to its provenance or maker. The details of it prove it to have been made by a master of his craft, and in the suit the best work of the tailor and the armourer appear combined. It was also made by one who understood what was required for the complete safety of the wearer, and if his movements were cramped, and the weight excessive, at all events no harm could come to him as long as he kept on his feet. If he once fell it would be impossible to rise unassisted, nor could he while on his feet move with speed or agility.

The earliest mention we have in any inventory of this peculiar armour is in that of 1629 where we have: "One footeman's Arms Compleate made for King Henry the Eight." This is not very definite and may not refer to this suit, but the entry is repeated in 1631. In 1660, when by 2nd August much of the scattered contents of the Green Gallery at Greenwich, which had been brought up to London about 1644 at the beginning of the great rebellion, had been put together in the Tower of London, we have the following: "Armor of King Henry the Eighth cap a pie being rough from the hammer." In October 1660 we have again: "One large armo^{r} for foot judged to be made for King Henry ye Eight."

The next notice of the suit is in November, 1688, just after the revolution. In MS. Harl. 7459 is a general state of all ordnance with the value thereof by estimation:

[1] *Archaeologia*, li, 1888.

ARMOUR OF HENRY VIII FOR FIGHTING ON FOOT IN THE LISTS.
TOWER OF LONDON. ($\frac{1}{28}$).

"Armr for K.H.8. rough from the Hammer. £40 os. od." Now this description "rough from the hammer" is rather misleading, for the suit shows no marks of forging. It is indeed not burnished as are many other suits in the Tower, but it has been "glazed," as it was called, and the surface is very smooth.

Probably its weight of some 94 lbs. and its want of ease protected it in later years when richer but lighter armour was lent to Drury Lane theatre and, worse still, to the Lord Mayor's show, for even as late as the year 1870 the valuable and historical suits of the national collection were subjected to the unfair usage they must have had when worn by those who knew nothing of, and perhaps cared as little for, these interesting armours.

This suit has suffered less than most in the collection, for, apart from the out-of-door ill treatment alluded to above, there was no gilding to be rubbed off with bath brick and other brutal agents, and the metal being stout has stood well the process of the weekly cleaning. There are perhaps four pieces of metal missing and no more. These are the upper lame[1] of the right brassard, the neck-guard of the right shoulder, and, it may be, a small plate from the thumb of each gauntlet.

Whether it was made for Henry VIII in this country by his Almain armourers at Greenwich, or imported from abroad, it was for a man of six feet in height and fairly proportioned. The small space allowed for the ankle is quite in accord with the later suits made for the earl of Worcester and others by Jacob Topf.

When one remembers that besides the lining, the rivet holes to fasten which occur in several parts, the wearer of this suit must have had an "arming suit" of fustian or some such textile, it does not allow for a stout man to wear this suit with much comfort. It is clear that he could not sit down, nor does the present condition of the suit allow of the arm being raised higher, or the hand being brought nearer to the face, than is seen in plate I.

[1] The word *lame* has been used here to describe a strip of metal such as goes to make up a set of splints. Though it may be objected that this is a French word, yet Sir John Smith in his *Instructions, Observations and Orders Military*, composed in 1591, and printed in 1595, uses this same word, spelt *lammes* (see p. 186), and indeed there seems to be no better word to describe the thing.

FIG. I. THE HELMET.

FIG. 2. THE BREAST, BACK AND GORGET, SHOWING THE SPLAY OF THE WAIST-PIECE.

THE HELMET.

The helmet (fig. 1) which weighs 10 lbs. 4 oz. consists of three parts: the skull-piece, the chin-piece, and the visor. All these three are pivoted on the visor pins.

The skull-piece, which protects the back and top of the head and back of the neck, has a broad ridge at the top, fading away at the back.

The chin-piece, protecting the cheeks, chin and throat, has, like the skull-piece, the lining rivets still *in situ*. The skull-piece is closed to the chin-piece (passing inside it) by an eyed pin fixed on a spring attached on each side of the skull-piece. On this spring, beside the eyed pin, and a little behind it, was a stud which passed through a hole in the skull-piece, and when this was pressed it would withdraw the eyed pin from the holes in the two pieces. The eyed pin is linched by a curved hook, pivoting on the chin-piece. The lower edge of the chin-piece of the skull-piece is bent inward so as to fit into a groove in the gorget.

The visor, though of one piece of metal, is of two parts. The upper is ridged so as to conform to the skull-piece when the visor is raised. Below this upper part is the occularium, reaching across the front of the visor. The lower edge of the occularium projects forward and on each side of the medial line it is pierced by a series of square air holes. Just above and below the occularium are two small holes, the reason for which is not apparent. There is no visible arrangement for keeping the visor raised, but on the lower margin on the dexter side are seen three holes, the lower one larger than the other two. Through the larger one would pass the pin for keeping the visor closed. This pin was fixed on the forward end of a spring attached by two rivets to the chin-piece, and would then pass through the chin-piece and the visor, and the two small holes in the latter would be for some arrangement by which the pin could be withdrawn inwards when the visor had to be raised.

THE GORGET.

The gorget consists of two pieces, front and back, weighing respectively 1 lb. 12 oz. and 1 lb. 8 oz. The

front is slightly ridged down the centre for about three inches, and the remaining two inches are rebated so as to lie behind the breastplate, the upper part being flush with the breast. It is bolted to the breast by three screws about 1½ inch below the rebate. The back is bolted to the back plate by a single screw about 2¼ inches below the top of the latter. At each side of the back are two eyed pins, the upper ones passing through corresponding holes in the front piece, thus forming a neck opening of which 13 inches is the circular measure of the front and 12 inches that of the back. Around this opening is a deep groove into which fits the inturned lip of the helmet. On the two lower pins hang the pauldrons. The margins of the armholes have stout turn-overs, corresponding to those of the breast and back plates.

THE BREAST AND BACK.

The breast (fig. 2) with its articulated lower lame and waist-piece weighs 7 lbs. the true breast being 10¾ inches high and the lame visible for 1 inch. To this lame is articulated the front waist-piece, which is of two planes, the lower one splaying outward. The armholes have stout turn-overs at the margin, and on each side of the breast are two holes through which eyed pins on the back plate pass and can be linched by curved hooks.

The back plate with its lower lame and waist-piece weighs 5 lbs. 8 oz. and has the stout turn-overs completing, with those of the gorget and breastplate, the margins of the armholes. At the sides are eyed pins for the attachment of the breast, which overlaps the back about ¾ inch. The back waist-piece has on each side of its upper plane eyed pins passing through and attaching the front waist-piece.

When the waist-pieces are closed the external girth is 38 inches.

THE PAULDRONS.

The pauldrons are a pair, but the left one has the neck-guard which is wanting on the right, though the holes on the third plate show where it was riveted. The right pauldron weighs 4 lbs. the left 5 lbs. 1 oz.

They are slightly ridged and each consist of five plates,

PLATE II.

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the upper one having near its margin a hole which passes over one of the long pins of the gorget. The lowest lame embraces two-thirds of the brassard and has a strap and buckle to complete the circle.

THE TACES.

The lower part of the body is protected in front by the taces and behind by the hoguine (fig. 3). The taces consist of four lames across the body, the lower one of which is slightly arched in the centre and has an eyed pin for the attachment of the brayette. Those broad lames have on the sinister side half-hinges corresponding to half-hinges on the sinister sides of the hoguine. The uppermost lame has at its dexter end a hole through which an eyed pin on the upper lame of the hoguine is passed and is linched. From the fourth lame hang over each thigh seven smaller lames, the lowest one being 5½ inches deep and having hinged to it another piece which, with it, encircles the thigh and is closed by two eyed pins and curved linch-hooks. The outer ends of these lames are connected by sliding rivets working in long slots. The weight of this protection is 10 lbs. 9 oz. On each side the sixth lame from the top is connected with the fifth lame of the hoguine by a strap and buckle.

The lower margins of the lowest taces and hinged pieces are bent inwards, forming lips which hold the out-turned upper margins of the tops of the cuisses.

Attached by a hasp, which fits over the eyed pin on the fourth lame, is the brayette; this weighs 1 lb. 8 oz. and has flanges on each side placed behind the small thigh lames, and also a prolongation backward through the fork. These flanges keep the brayette in position and are pierced for lining rivets, as also is the prolongation. There is a hinged hasp on top of the brayette. This is pierced so as to pass over the eyed pin on the fourth lame of the taces. The tail of the brayette reached nearly to the breech-piece.

THE HOGUINE AND BREECH-PIECE.

The hoguine, which protects the lower back, weighs 4 lbs. 8 oz. and consists of five lames. The upper one is

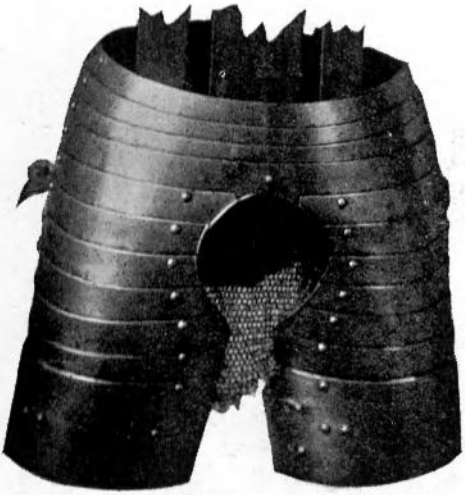
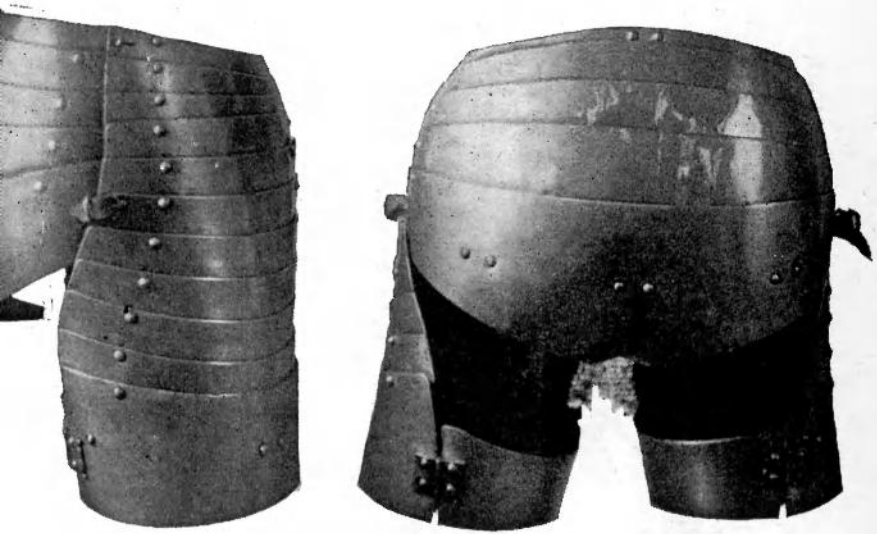


FIG.



3. THE TACES AND HOGUINE.

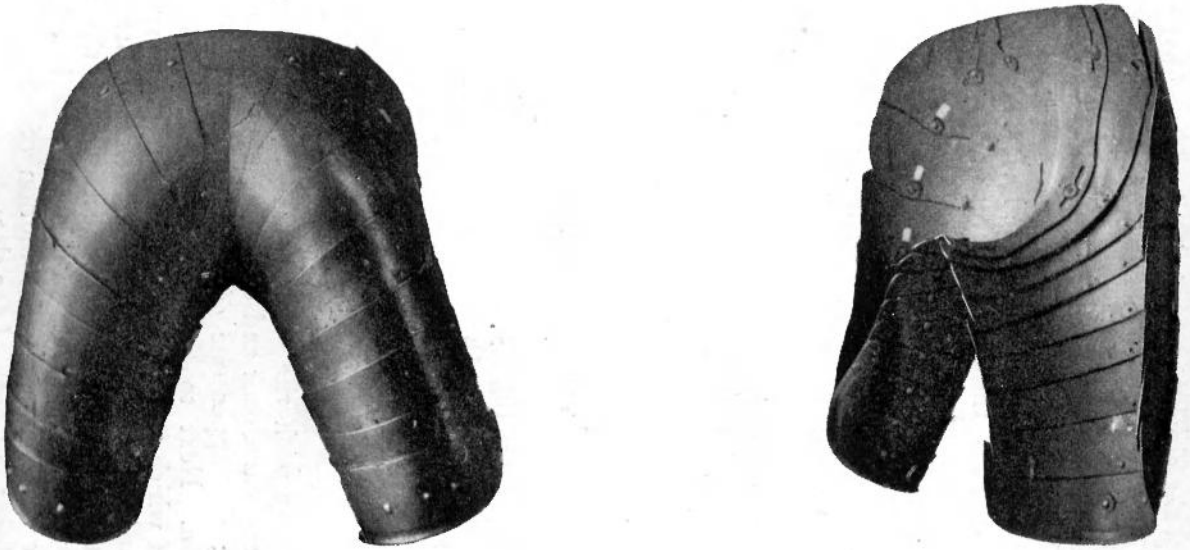


FIG. 4. THE BREECH-PIECE; OUTSIDE AND INSIDE VIEWS, SHOWING SLIDING RIVETS.

connected by eyed pins and slots with the upper tace. When closed, the circumference being less than that of the waist-pieces, the taces and hoguine, while allowing play for the body, cannot descend. The arrangement is similar to that of a collapsible drinking cup. The second, third, and fourth lames are one deeper than the other, and have half hinges on the sinister side. The lowest lame is about 5 inches deep and in the centre curves inward part of the way through the fork. The ends of the five lames are articulated by sliding rivets in vertical slots.

In addition to this hoguine, the seat is further protected by a breech-piece, which weighs 7 lbs. 12 oz. and is of peculiar construction, resembling the back of a pair of breeches behind the side seams (fig. 4). It consists of a central piece and eight lames on each side connected by sliding rivets and long slots. The lames bend up so as to come up in the fork. There is no attachment for this breech-piece, but the lower lames pass into the cuisses and so cover the seat.

THE BRASSARDS.

The arm defences (figs. 5 and 6) may each of them be divided into three parts: the rerebras, the elbow cop and the vambras. But besides these are two important arrangements, one of which is peculiar to this suit. This latter is a series of splints to protect the armpits. There is also a series of arm-bend splints much as seen in other suits.

Commencing with the rerebras, this consists of three plates protecting the back and encircling about two-thirds of the arm; the upper one of these has a semicircular upper margin. Next to these is the true rerebras, the inner side of which is cut away for the arm-bend splints. The three upper plates are connected with each other by rivets and the lower lame is connected with the true rerebras by two sliding rivets working in two horizontal slots. These allow of a circular motion of about three inches, which is the length of the slots.

Above the elbow cop, as also below it, is a small lame attached by rivets at each end, the upper lame to the rerebras, the lower one to the vambras. The elbow cop

FIG. 5. CUIRASSE AND RIGHT BRASSARD.

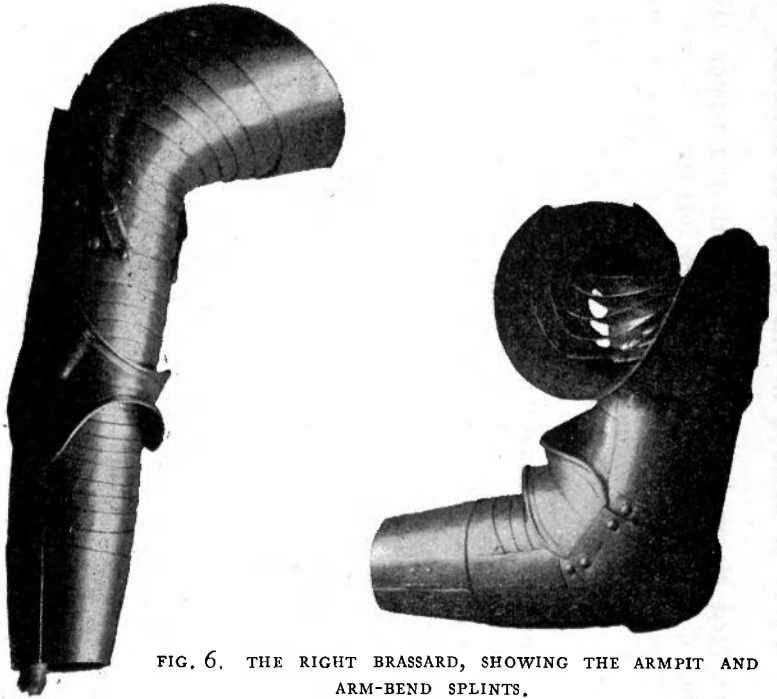


FIG. 6. THE RIGHT BRASSARD, SHOWING THE ARMPIT AND ARM-BEND SPLINTS.

has a large fluted fan on the outer side of the arm. The external girth of the rerebras is 16½ inches.

The vambras is of the usual form, but at the distal end are three horizontal slots in which work the rivets of the cuff-piece. The cuff-piece consists of two parts, the larger one having two rivets, with large washers, working in two of these slots, and the smaller piece hinged to the larger, having a stud which works in the third slot, when the cuff-piece is closed by another stud on the small piece springing up into a corresponding hole in the large piece.

The lower edges of the two parts of the cuff are turned inward to clip the outward turned edges of the gauntlets. It will be seen that the cuff has a certain circumferential movement, about three inches. The gauntlets, however, can move throughout the whole circle.

THE BRASSARD SPLINTS.

The arm-pit splints (fig. 6) consist of six lames, then a centre lame and then four more. The six larger ones are articulated by sliding rivets on the outer side, and the lowest lame is attached to the true rerebras by a sliding rivet, with a large washer, working in a horizontal slot, and also by its two ends being held by the sliding rivets attaching the three upper plates to the rerebras. When the arm hangs by the side of the body, the larger splints lie inside the cuirass close to the body (fig. 5), and when the arm is raised, the splints continue to protect the armpit. There are holes for lining rivets in the margins of the armpit splints.

The arm-bend splints consist of seven lames, a centre-piece and seven more lames. Of these the first is attached to the rerebras by a sliding rivet in a vertical slot in the centre. The lowest lame is attached at each end to the vambras.

The total weight of each arm defence is 6 lbs. 1 oz.

THE LEG ARMOUR.

The leg armour (fig. 7) on each limb is similar, the hinges being always on the outside, the eye-pins with curved

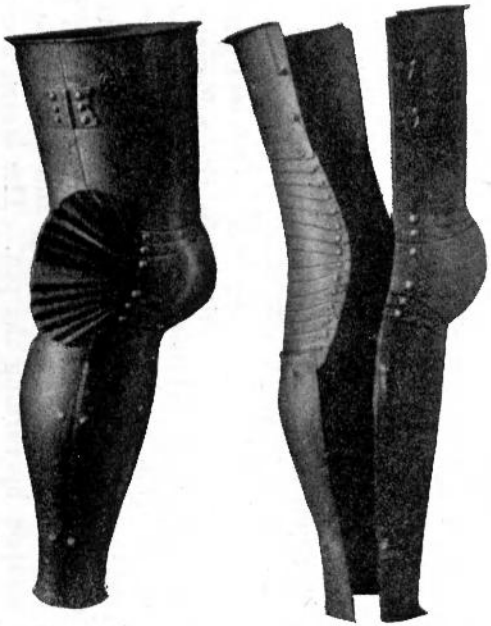


FIG. 7. OUTSIDE OF RIGHT LEG ARMOUR AND INSIDE OF LEFT LEG ARMOUR.

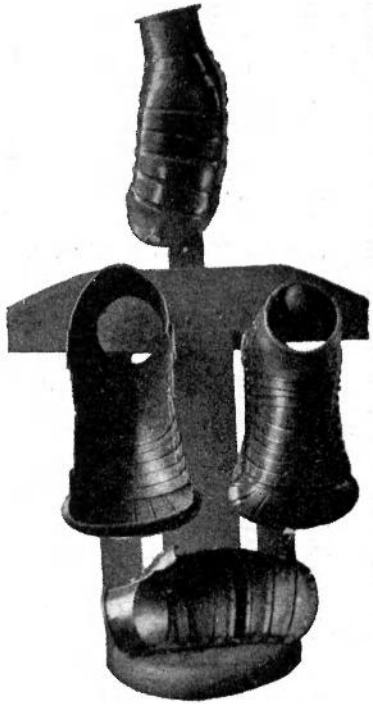


FIG. 8. OUTSIDE OF RIGHT GAUNTLET, INSIDE OF LEFT GAUNTLET. INSIDE OF RIGHT SOLLERET AND OUTSIDE OF LEFT SOLLERET.

linch-hooks being on the inside. The chief parts are the cuisse, the knee cop with its two small lames above, a large fan on the outside, and two small lames below, and the greave.

The cuisse is in two pieces, hinged and closed by eyed pins. The upper margins are turned outward, forming a lip which is gripped by the lowest lame of the tace on each leg. The two small lames above the knee cop and the two similar ones below are articulated at the ends.

The greave, also of two hinged pieces, has ridges in front and behind. The lower margins of the front and back are turned outward and gripped by the top of the solleret. The back part of the cuisse is cut away for a series of splints to protect the knee bend. These splints consist of eight lames above, a centre lame, and seven lames below. The uppermost lame is riveted at each end to the cuisse, and the lowest is attached to the back of the greave by a sliding rivet working in a vertical slot.

The total weight of the leg defences is, for the right leg, 7 lbs. 10 oz. and for the left, 7 lbs. 9 oz.

The maximum external girth of the cuisse is 34 inches, of the calf 18½ inches, of the ankle 10¼ inches.

At the top of the cuissard are six holes, now filled up, for lining rivets, four of these outside of the ridge. There are also holes for lining rivets round the lower parts of the greaves.

THE GAUNTLETS AND SOLLERETS.

The gauntlets (fig. 8) are a pair, and consist each of twelve pieces and weigh 1 lb. 8 oz. The upper end is of two pieces, hinged and having their upper margin turned over outward so as to be gripped by the cuff-piece of the brassard. There are then nine lames, the fourth of which has an extension for the thumb, and the ninth, with a semicircular end, has in the case of each hand a key-hole orifice, intended to fit over a pin, now missing, in the cuff, or on a piece now wanting, and able to be closed on a weapon by turning the pin. The lames, articulated at their sides, work with great ease. Perhaps another lame for each thumb is wanting.

The sollerets (fig. 8) are a pair, and each weighs 1 lb.

12 oz. and consists of eleven pieces. The heel-piece, five inches high and five inches broad, is hinged on the outside to the instep arch and closed by two eyed pins and curved linch-hooks. Next are four arches, then a centre-piece, and then five lower arches, the last of which is articulated to a broad toe-piece, the metal of which is carried under the foot for about two inches so as to keep the toe down after bending the foot. The toe is about 6 inches broad and the solleret is twelve inches long.

The heel-piece and first arch are turned over to grip the outward turned lower margin of the greave.

In the Musée d'Artillerie, Paris, are three armours like this one, for combats *en champ clos*, but hardly as complete in their detail as the Tower example. According to the official catalogue, these armours, G 178, G 179, and G 180, are of Italian make. The first has on the right cuisse the letters N.I. within the arms of a pair of compasses, over which is a crown, a mark which is also seen on three other suits in this museum. G 179 is said to have belonged to Jeannin de Medicis, a nephew of pope Leo X, and about seventeen years of age in 1515, which is the date of the suit, and, according to M. Eudes, it was evidently for a youth. Henry VIII was then twenty-four years old, and the Tower suit might well be made for a man of that age.

There are also at Paris two other suits, G 181 and G 182, the first Italian, the second German, both intended for foot combats but both of the style known as *tonlet* from the bell-shaped skirts. In Vienna is another of these *tonlets* of undeniable authenticity, having belonged to Claude de Vaudrey, who had fought with the emperor-elect Maximilian I, as seen in Freydal.

At Madrid also are fine *tonlet* suits of Philip II and of Charles V. Here in the Tower is a figure with a collapsible *tonlet* skirt, but it is not certain that the rest of the armour on the figure has anything to do with the *tonlet* in question.