

Development of the chin scales and chinstraps of Pickelhauben

by Sandy Michael Heinemann

Prussia (from 1870 at the latest also Baden, Württemberg and Hesse as well as the small states):

- The first chin scales on the helmets of **1842/43** weren't new developments, but were taken over from the retired leather helmets. During cutting tests on the new helmets, the lowered chin scales proved to be particularly effective, which is why they were kept despite their somewhat higher weight.
 - Initially, all chin scales were curved throughout. At the broad end they were about 3.6 cm to 3.8 cm wide, but then tapered to about 1.6 cm to 1.8 cm. The scales always alternated between a link with 3 curves and a link with 2 curves. The broad end scale was covered with an oval shaped and multiple fluted disk, the rosette, which also served to attach the leather cockade. The rosettes were usually oval and measured 3.5 x 4.0 cm. However, I have also seen round ones with a diameter of about 3.5 cm.
 - The narrow end links didn't initially have the small hook/eye attachment throughout, with which the raised chin scales could be comfortably fixed. This was mostly found only on officers' helmets. Instead, the chin scales were strapped as short as possible by means of buckles and straps. However, the advantage of the hook/eye attachment was quickly recognized, which is why it was generally introduced with the first delivery of chin scales for the new enlisted men's and officers' Pickelhauben.
 - The chin scales were usually attached to the helmet with a set of a screw and an elongated decorative nut. The screw was inserted through the helmet from the inside and the turned decorative nut was screwed on from the outside, which stood about 1.5 - 2.0 cm from the helmet (Fig. 1).
- With an AKO of June 26, **1856**, flat chin scales were introduced for foot troops after they complained more and more about the curved shape and the protruding decorative nuts. With their helmets on, the soldiers had problems with placing the rifle butt sensibly so that they could aim over the barrel.
 - The flat chin scales of the enlisted men and officers were initially about 2.5 - 2.6 cm wide and tapered to 1.5 - 1.6 cm (Fig. 2).
 - The round rosettes for the flat chin scales were about 0.2 cm larger, thus had a diameter of 2.7 - 2.8 cm.
 - Without the protruding decorative nuts, they were far more suitable for aiming, which is why the chin scale attachment was also reconsidered and replaced by a set of steel slotted half-round head screw and threaded bush (Fig. 2). Now that the screw didn't protrude as far, soldiers could lean their cheeks against the butt of the rifle much better and take aim.
 - However, the curved chin scale was undoubtedly more elegant to look at, which is why mounted troops who didn't primarily need to fire their rifles kept them.



Figure 1: M/42 chin scale attachment (Courtesy of Tony Schnurr - Kaisersbunker.com)

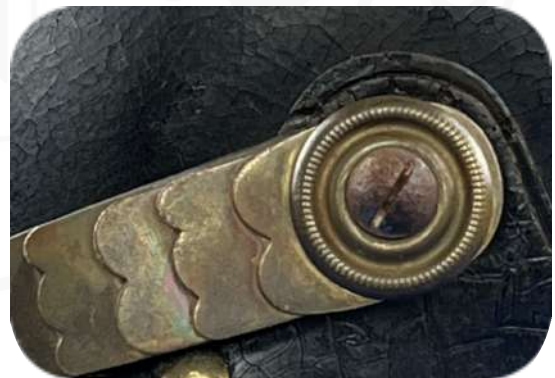


Figure 2: Flat chin scale with attachment of an M/71 (SMH collection)

- With the M/60 helmet introduced by AKO on November 3, **1860**, the curved chin scales also became somewhat slimmer, more similar in dimensions to the flat chin scales.
 - The curved chin scales of the foot troops were narrowed in width to approx. 2.6 - 2.8 cm / 1.4 - 1.5 cm (Fig. 3). The rosettes for these curved chin scales measured approx. 3.0 x 3.5 cm.

THE CURVED CHIN SCALES OF THE FOOT TROOP OFFICERS MAY HAVE BEEN SLIGHTLY WIDER, AS SOME OF MY MEASUREMENTS WERE 3.0 CM. UNFORTUNATELY, I WASN'T ABLE TO MEASURE ENOUGH OFFICER CHIN SCALES TO EXAMINE THIS MORE CLOSELY. HOWEVER, THE DEVIATIONS MAY ALSO BE DUE TO THE MANUFACTURING TOLERANCES OF THE TIME. SINCE THE CHIN SCALES DIDN'T HAVE TO SERVE ANY TECHNICAL PURPOSE, THE MANUFACTURING TOLERANCES WERE CERTAINLY NOT VERY TIGHT.

- The chin scales of the cavalry units were also narrowed and were still approx. 3.5 cm / 1.6 - 1.8 cm wide (Fig. 4). Their rosettes measured 3.0 x 3.5 cm, but the old ones with 3.5 x 4.0 cm were still used.



Figure 3: Curved chin scale with attachment of an M/71 of the FAR



Figure 4: Curved chin scale with attachment of an M/60 (SMH collection)

- After military requirements changed fundamentally and sabers no longer played a role in combat, the chin scale was dropped for most foot troops with the **M/87** helmet. Instead, an approximately 1.6 cm wide chinstrap made of blackened leather was introduced by AKO on March 3, 1887, which was attached to the helmet with a simple hook as a rosette (Fig. 5). It had a thorn buckle for length adjustment (Fig. 6). The chin scales were only worn by the officers, the guard infantry and the grenadier regiments 1 - 12. In the event of mobilization, however, the guard infantry and the grenadier regiments 1 - 12 should also put on the chinstrap.



Figure 5: Chinstrap attachment M/87 (SMH collection)



Figure 6: Chinstrap of a M/87 (SMH collection)

- On January 28, **1889**, the metal helmet was revised and thus the new M/89 was introduced. Mounted units continued to wear chin scales throughout and no chinstraps.

- The chin scales of the mounted enlisted men's helmets were still 3.5 cm / 1.6 cm wide. The oval rosettes measured 3.5 x 4.0 cm.
- The chin scales of the metal officers' helmets were greatly narrowed and measured only 2.7 cm / 1.4 cm in width, which did not please everyone. The officers' cloverleaf rosettes were 4.0 cm wide at their widest point.

- Because the hook fastening of 1887 hadn't proven itself and the chinstraps were often lost, the army looked for a replacement early on and found it in the chinstrap fastening **M/91**, which was introduced by AKO on January 8, 1891. The chin scales continued to be worn only by officers, the guard infantry and the grenadier regiments No. 1 - 12.

- The length of the chinstrap M/91 was adjusted with 2 pull buckles and the rosette used to attach the chinstrap to the helmet initially consisted of a small cylinder with a diameter of **13 mm** (Fig. 7), which was fastened to the leather helmet by means of a 4-split split pin and 1 pin to prevent twisting (Fig. 9). The number of pins to prevent twisting wasn't regulated in 1891 and was taken over from the M/87 (Fig. 7). A V-shaped nose, approx. 5 mm in size and pointing diagonally backwards, was attached to the cylinder, over which the metal eyelet of the chinstrap, whose recess was approx. 0.1 mm larger than the cylinder, was led (Fig. 8). When the strap then rested on the front visor or was worn under the chin, it was

secured by this nose and couldn't get lost. The metal eyelets on the chinstrap were about 38 mm long and 2,0 mm thick for foot troops and 3.0 mm thick for mounted troops.

- The chin scales now had matching cutouts for the M/91 rosette buttons instead of the split pin rosettes and the most rear scale was fixed to the leather with 3 rivets in a triangular arrangement (Fig. 10). In addition, the rearmost scale should be 2.0 mm thick for the leather helmets and 3.0 mm thick for the metal helmets.
- The flat chin scales of the enlisted men narrowed to 2.0 cm / 1.2 cm.
- The officers' flat chin scales narrowed to 2.3 cm / 1.3 cm, and the officers' rosette was 2.5 cm in diameter.

f. an beiden Seiten eine Rosette von 1,3 cm Durchmesser mit nach oben und etwas nach hinten gerichteter 5 mm großer Spitze, zur Befestigung des Kinnriemens (Schuppenfette) und der Kokarde.

f) on both sides a rosette of 1.3 cm in diameter with a 5 mm tip pointing upwards and slightly backwards, for fastening the chinstrap (chinscales) and the cockade.

Figure 7: Excerpt from "Bekleidungs-Ordnung für Mannschaften der königlich Preußischen Armee" - Part 2, from 1896 (Source: <https://www.books.google.de>)



Figure 8: Chinstrap attachment M/91 (Courtesy of Tony Schnurr - Kaisersbunker.com)



Figure 9: Example of an M/91 rosette fastening from the inside, with a pin as anti-twist device



Figure 10: Curved chin scale with M/91 rosette (Courtesy of Tony Schnurr - Kaisersbunker.com)

As in 1887, the new chinstrap was first introduced only for the helmets of the infantry. For the cavalry, the artillery and the train, this chinstrap fastening was only generally adopted with the AKO of 18 May **1894**.

- The curved chin scales on the enlisted men's leather helmets were now narrowed to a width of 2.6 cm / 1.5 cm.
- The curved chin scales on the leather officers' helmets narrowed to a width of 2.6 cm / 1.4 cm. The oval rosettes now measured only 2.7 x 3.2 cm.

With the introduction of the **M/95**, the new clothing regulations of June 27, 1896, also slightly changed the M/91 chinstrap together with its attachment and defined it somewhat more closely. But also some chin scales got other dimensions.

- The cylinder of the M/91 rosette now measured **ø14.0 mm** and 2 opposing pins were specified as anti-twist devices. The V-shaped nose was also defined in more detail; it was to be 5 mm long and 1.4 mm thick (Fig. 11).
- The rosette of the metal helmets had to be somewhat more robust, which is why the V-shaped nose had to be 2.0 mm thick and rounded at the front (Fig. 12).

f) An beiden Seiten je eine zylindrische, durch zwei einander gegenüberstehende Haltestifte am Helm Kopf befestigte Rosette von 14 mm Durchmesser mit nach oben und etwas nach hinten gerichteter, 5 mm langer und 1,4 mm starker Nase, zur Befestigung des Kinnriemens, bzw. der Schuppenkette und der Kokarden.

f) On both sides a cylindrical rosette of 14 mm diameter with a 5 mm long and 1.4 mm thick nose pointing upwards and slightly backwards, attached to the helmet shell by two holding pins facing each other, for fastening the chinstrap, respectively the chinscales and the cockade.

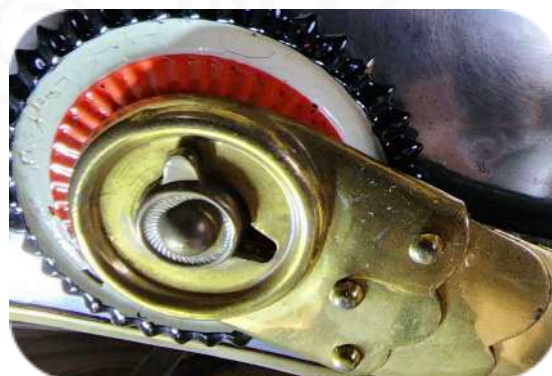


Figure 12: Chin scale attachment of an M/89 metal Pickelhaube (Courtesy of Amy Bellars).

Figure 11: Excerpt from "Bekleidungs-Ordnung für Mannschaften der königlich Preußischen Armee" - Part 2, from 1903 (Source: <https://www.historische-uniformen.de/home/weiterleitungen-und-hinweise/originaldokumente>)

- The chinstraps were still around 1.6 cm wide, but the metal eyelets were slightly larger because of the 14 mm rosette buttons, as the cutouts also had to be 0.1 mm larger (i.e. 14.1 mm). The thicknesses with 2.0 mm for foot troops and 3.0 mm for mounted units remained the same.
 - The curved chin scales of the **Jäger zu Pferd** and the **Leib-Gendarmerie** were initially identical to the cuirassier helmets, but from 1903 at the latest they were only 3.2 cm / 1.4 cm wide (Bkl.O. 1903).
- ✦ With the introduction of the **M/15** on September 21, 1915, the 4-way spliced split pin and anti-twist device were greatly improved.
- They were replaced by 2 elongated sheet metal tongues (Fig. 13), which were inserted through matching slots in the helmet and then bent over. This not only made production much easier, but also made installation and removal faster than before.
 - Now, the chinstrap was always to be worn to the helmet with cover. To the helmet without cover the chin scales were to be worn only on the metal helmets, by the 1st guard regiment on foot and by the officers.
 - In addition, the mounted units and officers now also wore chin scales with M/91 rosette buttons. Only these were covered on the leather helmets by decorative caps in a similar design to the split pin rosettes previously used (Fig. 14).



Figure 13: Example of M/15 chin scale attachment



Figure 14: Example of officer's chin scale attachment M/15

In Bavaria and Saxony, the dimensions differed slightly from the Prussian specifications:

Saxony:

- In the Kingdom of Saxony, independent chin scales were worn on the metal helmets in **1867**, when Saxony introduced the Pickelhaube. Until 1889, they were a respectable 3.8 cm / 2.3 cm wide.
- The chinstrap on the **M1887** and initially on the M1891 was only 1.5 cm wide, instead of 1.6 cm as in Prussia.
- The chin scales of the enlisted men's helmets were 3.5 cm / 1.8 cm wide in Saxony as of **1889**. The oval rosettes measured 3.5 x 4.0 cm, as in Prussia.
- The chinstrap fastening **M/91** consisted also in Saxony at the beginning of a small cylinder with only **ø13 mm**, which was fastened by means of a 4-way spliced split pin and only 1 pin against a twisting at the leather helmet. The metal eyelets at the still 1.5 cm wide chinstrap were 2.0 mm thick, as in Prussia. But the allowances for the recesses of the metal eyelets or in the chin scales were with 0.3 mm clearly larger than in Prussia or Bavaria, where they added up to only 0.1 mm.
- The flat chin scales were identical in width to the Prussian models and measured 2.0 cm / 1.2 cm. The curved chin scales, however, were slightly narrower at 2.5 cm / 1.5 cm wide. In contrast to Prussia, the chin scales in Saxony were identical for enlisted men and officers.
- In **1895**, the diameters of the M/91 rosettes were also increased in Saxony, but here the diameter was specified as **ø14.1 mm**. Likewise, 2 pins were now specified as anti-twist devices. The diameter of the part resting against the helmet was 2.0 cm. The V-shaped nose on the cylinder of the M/91 rosette was 4.5 mm long and 1.4 mm thick. The chinstrap was now also specified as 1.6 cm wide.
- The chin scale widths also changed slightly in 1895. The flat chin scales were now to be 2.15 cm / 1.2 cm wide, the curved chin scales were specified as 2.65 cm / 1.5 cm. The rearmost scale was to be 2.0 mm thick.
- The M/91 rosettes of the metal helmets also measured 14.1 mm in diameter from 1895, but the diameter of the part resting against the helmet was only 1.9 cm and the nose was 5 mm long, rounded and 1.9 mm thick.

Bavaria:

- In the Kingdom of Bavaria, the Pickelhaube wasn't introduced for the most part of the army until 1886. The chin scales on the Bavarian helmet **M1886** will probably have been the same width for enlisted men and officers in the beginning. The flat chin scales measured 2.3 cm / 1.3 cm, the curved ones measured 2.6 cm / 1.4 cm. The rosettes had a diameter of 2.5 cm.
- In Bavaria, however, the new chinstrap with hook fastening was also introduced for the enlisted men in 1887. The chinstrap was 1.6 cm wide, as in Prussia.
- In **1891**, the M/91 rosette was introduced, whose cylinder initially had a diameter of only **13 mm**, just as in Prussia. Also like in Prussia, the number of pins for anti-twist protection was not specified and only 1 pin was used to prevent twisting. The metal eyelets on the still 1.6 **cm** wide chinstrap were just 1.6 **mm** thick and the cut-outs had an allowance of 0.1 mm. At the beginning The V-shaped nose was 5 mm long and 1.4 mm thick.
- The chin scales approached the Prussian models in 1891. The flat chin scales of the enlisted men were 2.0 cm / 1.2 cm wide, the curved chin scales of the enlisted men measured 2.4 cm / 1.4 cm in width. The officers' chin scales remained unchanged.
- The rearmost scale of the M/91 chin scales was to be 2.4 mm thick for the foot troops, and even a proud 3.8 mm for the mounted units.
- In **1896**, the diameter of the cylinder of the M/91 rosette changed to **14 mm** and 2 pins were specified as anti-twist devices. The nose didn't change.

