

THE MAUSER SELFLOADING MILITARY PISTOL

By H. J. "Jack" Dunlap

The locked belt, recoil operated Mauser Pistol went into initial production in 1896, and the last examples were produced at Oberndorf about 1939. In this period of about 43 years, very few changes were made in the mechanism of the weapon. The history of the Mauser pistol largely concerns the change in outward physical appearance, giving the collector a wide field to work on. This talk will deal with the first general approach to the Mauser system and its ultimate development.

The details and quality of the Mauser pistol are of the highest order. In fact, the Mauser pistol is remarkable in its conception. Starting with the original prototype to the end of production in 1939, only certain portions of WW-1 production show any decline in quality. The inventors and principal perfectors were among the foremost craftsmen in Europe. The facilities of the Mauser Plant (The Waffenfabrik Mauser) are too well known to require elaboration here. Although not a completely successful commercial design, the weapon is still worthy of high praise, even in this present day of complicated mechanisms.

In outlining the early history of the design and manufacture of the first prototype of the Mauser pistol in 1894-95, one might think it sufficient to be guided by statements made in the officially published history of the Mauser Werke, and many other statements made in factory publications, magazine articles and advertising. All of the foregoing ignore a significant point which has only recently been uncovered. The "Rucklauf-Pistole System Mauser" was neither invented nor first perfected by Paul Mauser. This is possibly the most important of the pistol's history. It is certain that the first prototype was not made by Mauser, nor was it started under Mauser supervision. In fact, it was probably started without Mauser's knowledge, and when it first came to his attention he apparently disapproved of the project. This historical background comes from certain Mauser employees and cannot be substantiated from any factory material.

Most of the credit for the invention and perfecting of the Mauser System pistol will have to go to Fidel, Friedrich and Josef Feederle, who were Paul Mauser's closest associates in the experimental Work Shop during the last decade of the 19th century. Fidel Feederle was, for a long period of time, Superintendent of the Experimental Work Shop. He still held this position at the time of his retirement in 1930. He is referred to in the "History of The Mauser Werke" as the general Superintendent. Within a few years of his entrance into the Mauser business, he was referred to as "Mauser's right hand man." He died in 1930 shortly after his retirement.

Friedrich (Fritz) Feederle was engaged in experimental work as a master mechanic in the plant throughout his entire career. He retired in 1926. Josef Feederle was first associated with the Experimental Department and later made Superintendent of the assembly and finishing departments. In this connection he was closely associated with the production of all pistols at Oberndorf. He retired in 1932 because of poor health. He was succeeded by August Weiss who remained Superintendent of this department until 1945. To this gentleman (August Weiss) goes the credit for supplying the greatest amount and most informative information which went into the manuscript of the Mauser Pistol Book. It is to Herr August Weiss that full credit must go for making it possible to unfold the background history of the P-7.63, as the Mauser Pistol is known in his country. Herr Weiss provided the first clue to the background of the Mauser pistol when he stated in one of his letters: ". . . concerning the development of the P-7.63 as well as the completion of the prototype piece and its assembly, Paul Mauser was very closely assisted by the three Feederle Brothers." A written statement contained in a letter from Ferdinand Feederle (Son of Joseph) reads: "Amongst the circle of Mauser workers, the P-7.63 is still referred to as the 'Feederle Pistol'." These facts are supplanted by another story that Paul Mauser berated Fidel Feederle when Fidel was found performing personal work on company time, developing the first model of the P-7.63. According to this story, every Sunday thereafter the three Feederle Bros. met at Josef's house to discuss and work on the design of the pistol. The "home" planning probably came to an end when Paul Mauser embraced the design and authorized official work at the Experimental Workshop.

Based upon the foregoing, I feel justified in concluding that the basis, and probably the firing system of the Mauser Pistol, was conceived by Fidel Feederle and his brothers sometime late in 1893 or early 1894. Fidel undertook preparation of a working model, with Mauser's permission, prior to the Summer of 1894. Up to this time the model evidently had not yet been completed or tested by the Feederles. It cannot be determined whether the Feederles still possessed the pistol model that caused Fidel his original trouble with Paul Mauser. It seems more probable that a fresh start was made at the Experimental Workshop. The following statement is found in the published history of the Firm:

The first research that Paul Mauser undertook on the question of an automatic weapon was the construction of a self-loading pistol in 1894. This weapon was ready for firing on March 15th., 1895.

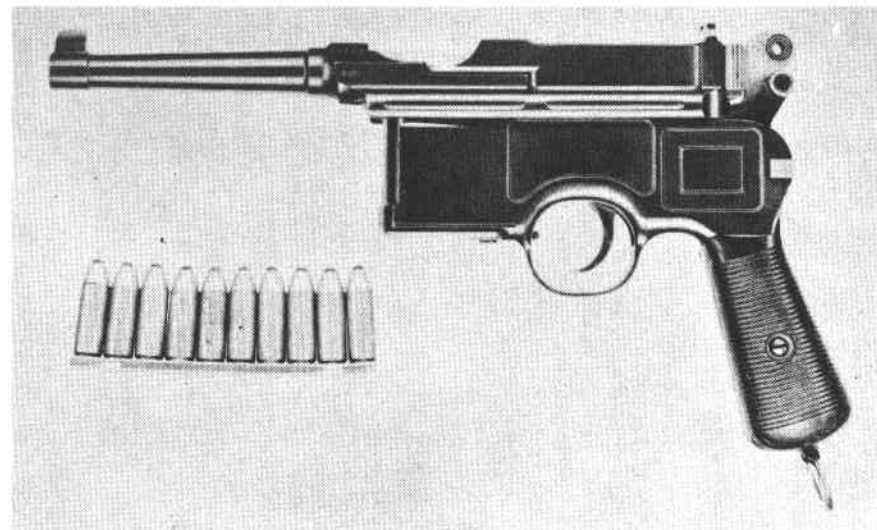
In the light of this historical background it seems logical to interpret this statement to mean that sometime in 1894 Mauser gave his approval to the Feederle design and personally involved himself in further development and ultimate manufacture of a prototype. It has not, however, been determined whether or not the

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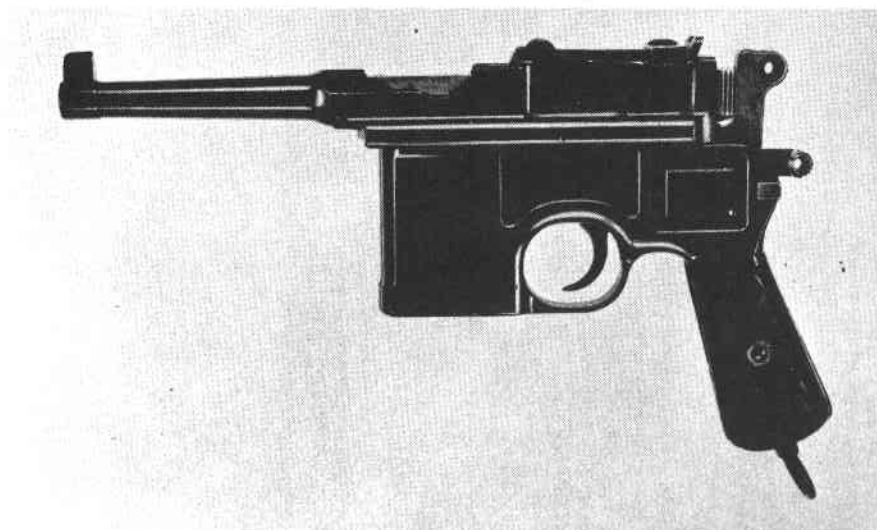
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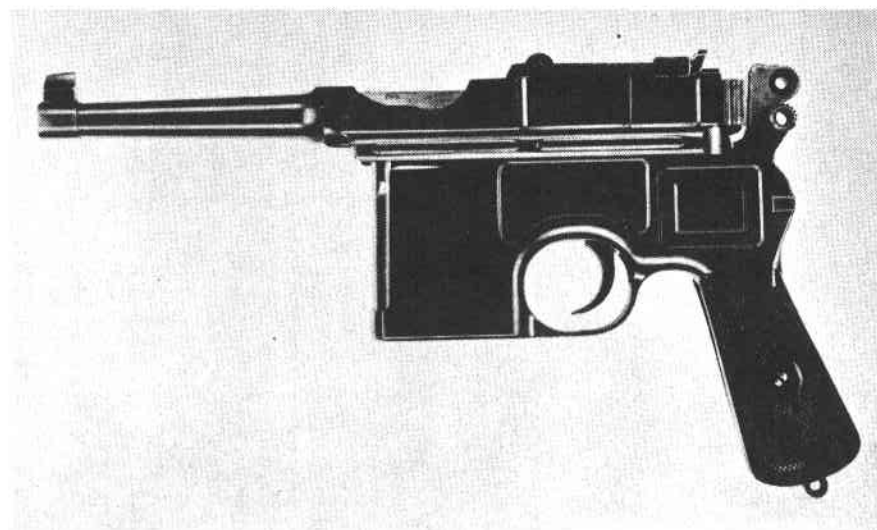
6-SHOT "BOLO" OF THE 1898 PERIOD MARKED: "VON LENGERKE & DETMOLD NEW YORK."



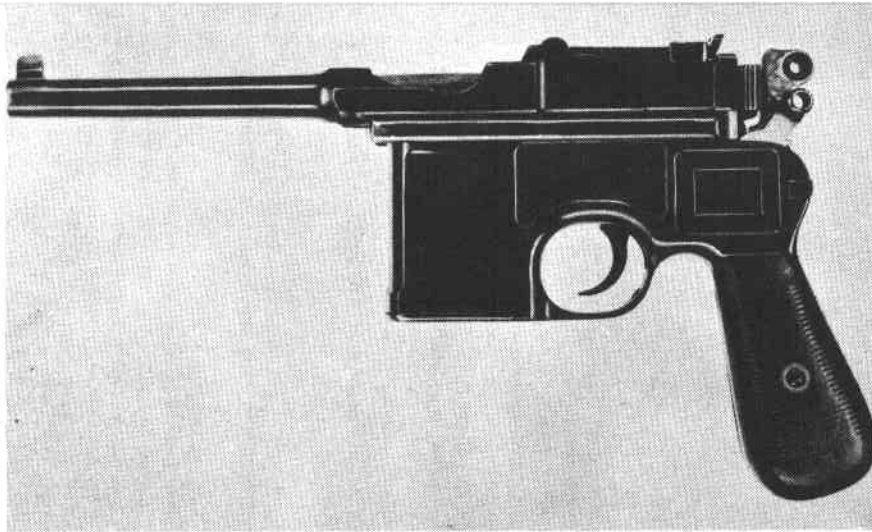
6-SHOT BOLO IN 9MM MAUSER CALIBER. MODEL OF 1902. NOT CUT FOR STOCK.



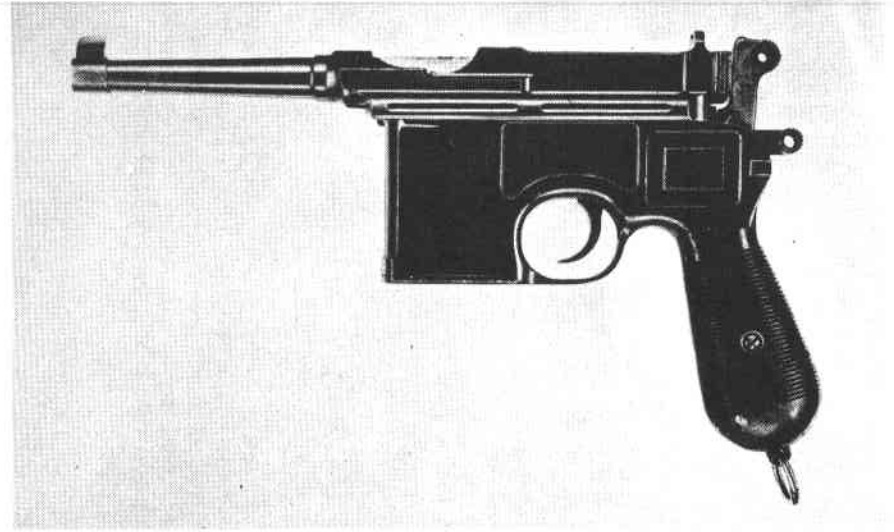
SMALL FRAME "BOLO" MAUSER WITH 4" BARREL, 10-SHOT, 7.63 MAUSER CALIBER. FLORAL DESIGNED HARD RUBBER GRIP PIECES.



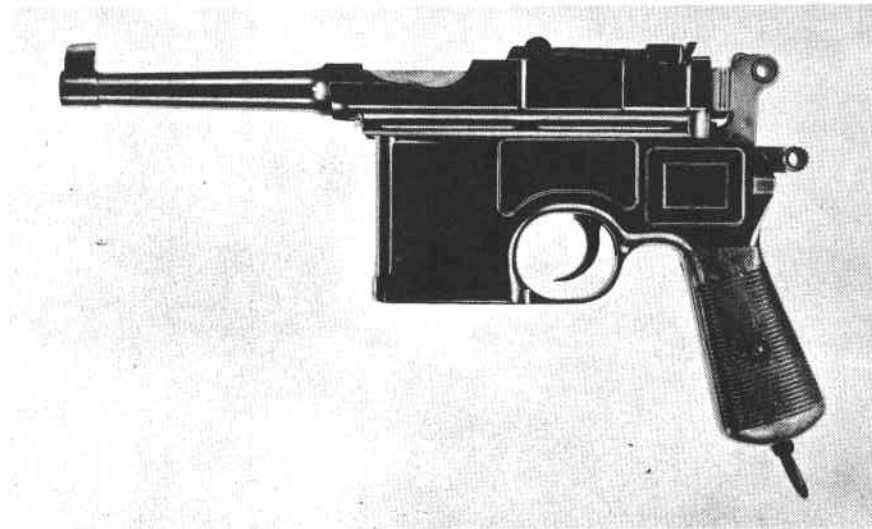
SMALL FRAME "BOLO" MAUSER WITH 4" BARREL, 10-SHOT 7.63 MAUSER CALIBER. WITH CHECKERED HARD RUBBER GRIP PIECES.



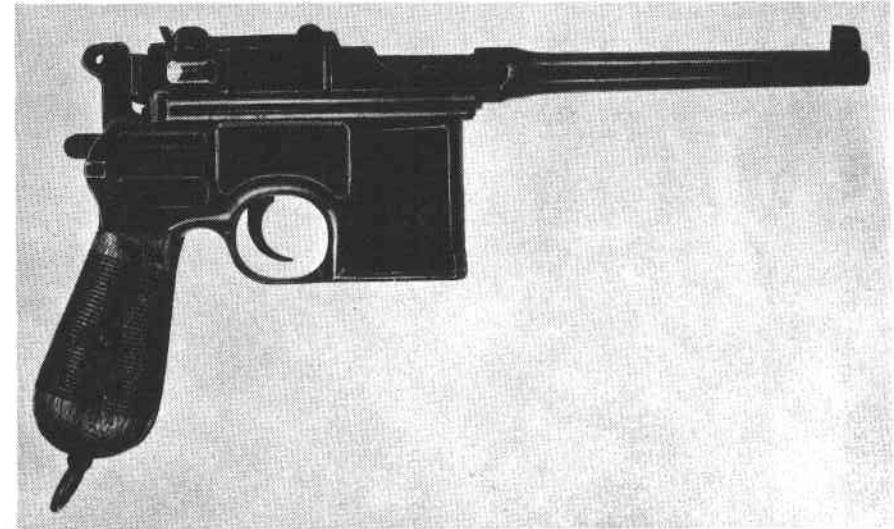
MAUSER MILITARY PISTOL WITH 4-1/2" BARREL IN 9MM MAUSER CALIBER.



A MILITARY MAUSER PISTOL IN 7.63 MAUSER CALIBER, 10-SHOT, 4" SCREW IN BARREL.



SMALL FRAME "BOLO" MAUSER WITH 4" BARREL, 10-SHOT, 7.63 MAUSER CALIBER. WITH WOOD GRIP PIECES.



MAUSER MILITARY PISTOL IN 9MM PARABELLUM CALIBER. UNUSUAL "RED 9." OTHER AND SMALLER "RED 9's" HAVE BEEN EXAMINED.

original Feederle model was used to produce the first prototype. When Mauser authorized work on the gun it seems more probable that a fresh start was made at the Experimental Workshop. In any event, the official published report of the completion of the first prototype is dated March 15, 1895. On December 11th, 1895, after successful results with the first prototype pistol, Paul Mauser applied for patent rights on a "Recoil-operated Firearm." Patent No. 90430 was issued as a result. The pistol was patented in several other countries: United States, Great Britian, Switzerland, Belgium, France, Spain, Norway, Italy, Brazil, Austria, Hungary and Denmark.

The first prototype pistol, completed March 1895, appears to have been revised from time to time, between March and November 1895 when the patent drawings were prepared, and again after November 1895. The stabalized version of the pistol was probably reached in the Summer of 1895. It was a 10-round capacity weapon with a fixed, half round notch, rear sight and a semi-circular front sight. This piece was later engraved, for historical purposes, with the legend "15. Marz 1895." It is not likely that this first prototype possessed any other marks. The weapon itself no longer exists, that is, for public viewing; it disappeared at the end of WW-1. Probably now in the collection of Dear Charles.

The cartridge used in the first prototype pistol, and probably intended by Feederle for his model as well, was a 7.65 variety as designed and manufactured originally at the request of Lowe for use in the Borchardt automatic pistol in 1893. The 7.65 Borchardt pistol cartridge was the only available variety then being made for handguns. It was, in fact, the first successful rimless pistol cartridge case ever produced. It had already been perfected and proven in an automatic weapons system, which was probably the reason for Mauser chambering his pistol for this round and using it for the development of the Mauser pistol.

Several changes were made in the first prototype over a period of a few months. In fact, until the appearance of the second prototype pistols, it is probably that the first prototype was in constant state of revision. Unfortunately, no drawings other than the original patent drawings exist. Consequently, comparison of the various stages can be made only on the basis of external features. We do know that several mechanical changes were made between the patent drawings of 1895 and those of 1896 when the second prototype pistol appeared.

One principal external change in the second prototype pistol is in the form of the hammer. In the second prototype Mauser omitted the spur hammer in favor of a flat face with a circular profile. Superimposed on the round portion of the new hammer are a series of concentric rings, increasing as their diameter decreases. This has the effect of thickening the hammer and gives rise to the presently used term "Cone Hammer." The Cone Hammer, was used in commercial production up to serial number 14999. Above the 11,000 number range, however, there are some exceptions. In fact, there are exceptions to most any statement concerning Mauser pistol serial numbers. It is quite obvious that sizeable groups of any one series of numbers were omitted to impress the market with the number of Mauser pistols manufactured. Also, contract numbers were obviously omitted from commercial series.

The transition of the first prototype (March to December 1895) and the experience with the second Prototype pistols (November 1895 to February 1896) undoubtedly convinced Paul Mauser that the design was now ready for commercial development and possibly military use. After February 1896 a group of preproduction pistols were manufactured in several forms. This marked the first stages of Mauser's plan to mass produce the pistol.

In January 1896, Paul Mauser decided to produce the weapon commercially. This required stabilization of the design, detail of refinement and ease of production. Work continued through October 1896, during which period four varieties in handgun form and one variety of carbine were perfected. A total of approximately 110 pieces were made. During this period of production the weapon was brought to its final stage of development for mass production, and by the end of the year the pistol had become a commercial reality. Therefore, contemporary sources as well as factory publications, refer to the pistol as the Model '96. For the benefit of the fraternity members, this is considered to be the correct term and applies to all forms of the pistol (except the experimental 1902, 1930, and the M712). In 1930 a new term -- M1930 -- appeared. By 1897 the pistol was being mass produced. Several thousand were manufactured in that year, and more than 1000 were sold. During the period January and October, 1896, five basic varieties were manufactured; the 6-shot, 10-shot, 20-shot, the 6 mm experimental and the 10-shot Carbine.

The 6-shot preproduction pistol was, like the 10-shot pistol, a further stage of the Second prototype form of the pistol. Although only three specimen of the 6-shot preproduction pistol are known, it is probable that the actual quantity manufactured was in excess of 20 pieces.

All of the preproduction pistols were slotted on the back strap so that they could accept a combination wooden holster and stock. However, the width of the 20-shot holster stock was greater than the 6 and 10-shot variety. The 20-shot preproduction pistol was essentially the same as the 6 and 10-shot types. It had, however, an elongated magazine housing capable of accepting 19 cartridges, the 20th round going into the chamber when the stripper clip was removed. The 20-shot pistol was intended for the military market but was also introduced into the commercial market. It enjoyed little or no success in either market and was discontinued in this form after 1898.

The fourth and final handgun variety of the preproduction models was an experimental piece and not related to the production models. It was a 10-shot pistol fitted with a series of detachable barrel all chambered for a 6 mm experimental cartridge. It is doubtful that more than one or two of the 6mm 10-shot pistols were made. It has been presumed by the Mauser fraternity members that the 6 mm cartridge was a necked down version of the 7.63 Mauser cartridge. However, this is not the case. The DWM cartridge register lists the cartridge as "Case number 414, Reucklauf Pistole Kal. 6 mm W.F. Waffenfabrik Mauser Bullet number 236 Uneingezogen." but shows no drawing of the case. It was not a DWM practice to assign new numbers to a modified version of an existing cartridge, but to add a letter to the number of the existing cartridge, which, in this case would have been the number of the 7.63 Mauser cartridge (403) with a letter added. From Mr. N. Wilkendorf of IWK (Industrie-Werke Karlsruhe) formerly DWM, comes this information: "... clarification of the term 'uneingezogen.' This means that the cartridge in question is a cylindrical cartridge case which was not necked down." This would seem to indicate that the cartridge was of the straight case variety. In all the years I have collected cartridges, a specimen of the 6 mm Mauser cartridge has never been encountered. Nor do I know of a collector who has.

The fifth variety of the preproduction group was not a handgun, but rather a carbine version of the pistol mechanism. Its official nomenclature was "Kavallerie Karbiner" (Cavalry Carbine). This weapon had a 10-shot magazine capacity, it lacked a grip frame and was provided with a detachable wood butt stock. The carbine seems to have been numbered in its own series, starting with number 1. The 10-shot and 20-shot preproduction pistols were stamped or engraved with a two line legend "SYSTEM MAUSER" over the chamber. The 6-shot pistols were marked "RUECKLAUF PISTOLE SYSTEM MAUSER OBERNDORF A NECKER" in three lines in the space normally occupied by the rear sight.

The rifling specifications (4 grooves right twist) established during the preproduction period was maintained through the commercial model with the large ring hammer and smooth sides. Exceptions to this have been noticed, but invariably in contract pieces. As usual, in the case of the Mauser pistol, it is difficult to establish a set rule.

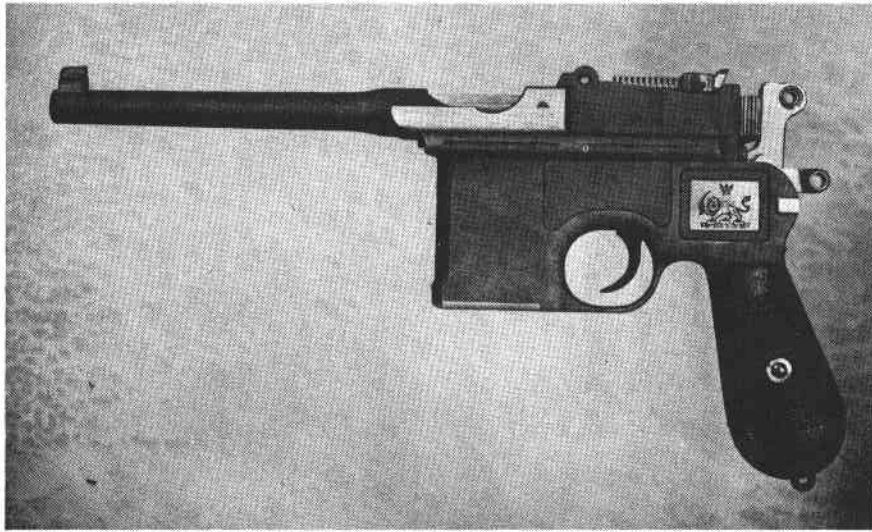
Work on the preproduction examples apparently satisfied Mauser during July 1896, and he began to demonstrate the weapon outside Oberndorf. August found him in Berlin at "Headquarters," the office of Ludwig Loewe & Company. There he submitted perfected examples of the preproduction pistols and obtained permission to plan and commence preparations for commercial manufacture of the weapon in several forms. Paul Mauser returned to Oberndorf elated with the results of this trip, for shortly thereafter (September-October) commercial manufacture of the Mauser automatic pistol began. The 10-shot pistol demonstrated at Ludwig Loewe appears to be the exact type of the 10-shot variety later shown in company literature of the period very late in 1896 and early 1897. One must conclude, therefore, that experimental and prototype work on the design was completed no later than July or early August 1896, and immediately thereafter at least a small number of pieces were produced in that form which is commonly associated with the first production of the pistol in quantity.

In summary, it might be stated that between March 1895, when the initial prototype piece was completed and ready for firing, and July 1896, Mauser progressed the development of the pistol through various stages so that by July 1896 a number of examples of the pistol in final mechanical form, suitable for mass production, could be made ready. It would also appear that Mauser was sufficiently convinced of the functioning to demonstrate the pistol to military authorities. It may also be stated that between March 1895 and July 1896 at least one, or possibly more, of the 6-shot examples and possibly one or more of the intermediate form were produced. However, the 10-shot variety no doubt accounted for the largest quantity of the preproduction pistols.

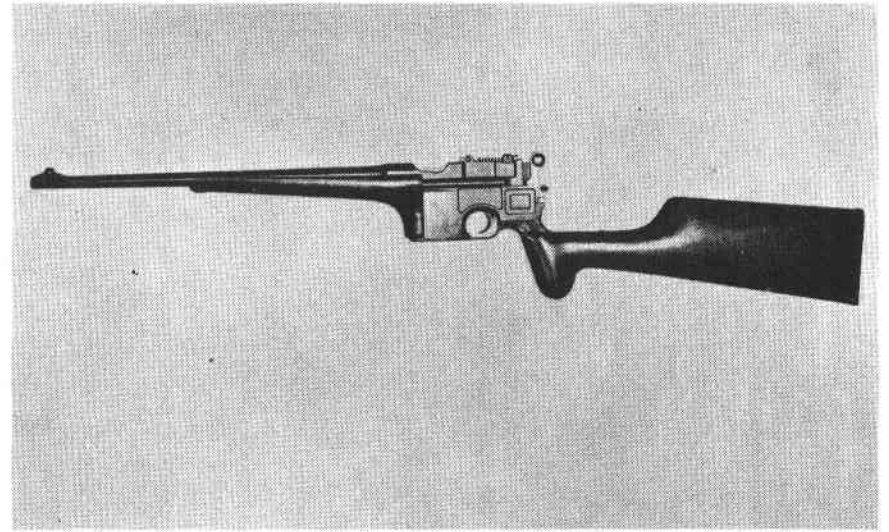
Available evidence indicates that Paul Mauser was determined to fulfill his personal desire to become the leading inventor and manufacturer of automatic weapons. In consequence, after his company agreed to finance the project, the Obendorf factory manufactured ever increasing quantities of the pistol without ever knowing the potential market. A much larger quantity was manufactured during the first three years than was sold. It soon became apparent that the pistol would not be a major commercial success, nor did the demand in the early years equal the ability to manufacture.

The favorable results of the demonstration at Ludwig Loewe & Company in Berlin probably contributed to the decision, in 1896, to start production of the pistol in its various forms. Another probable factor was the conclusion, by the management of Loewe, that their Borchardt automatic pistol was not a commercial success. The Borchardt was first marketed by Lowe at the end of 1893. Small quantities were produced from time to time in the rifle department of Loewe's Berlin plant. Had the pistol been successful, it is probable that Loewe would have created a specific department for the manufacture and assembly of the Borchardt.

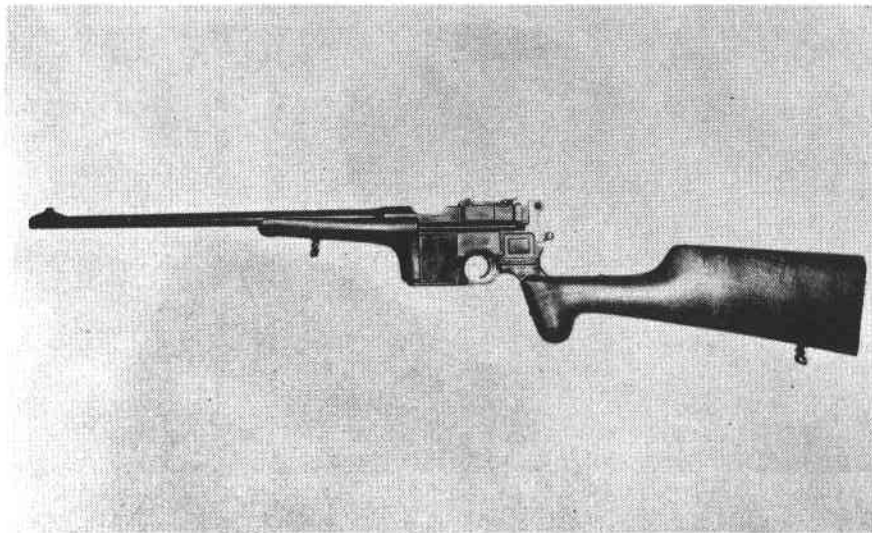
By mid 1896 it was evident that the Borchardt was not acceptable to the military or the commercial trade, while public and military interest in automatic pistols was expanding. Approximately 1600 Borchardt pistols were manufactured up to January 1897, when Loewe & Co. was absorbed into the newly created Deutsche Waffen und Munitionsfabriken (DWM). One factor still favored the Borchardt, however. The Swiss government had tested it in 1896 and, although not particularly interested in it, the Swiss military authorities



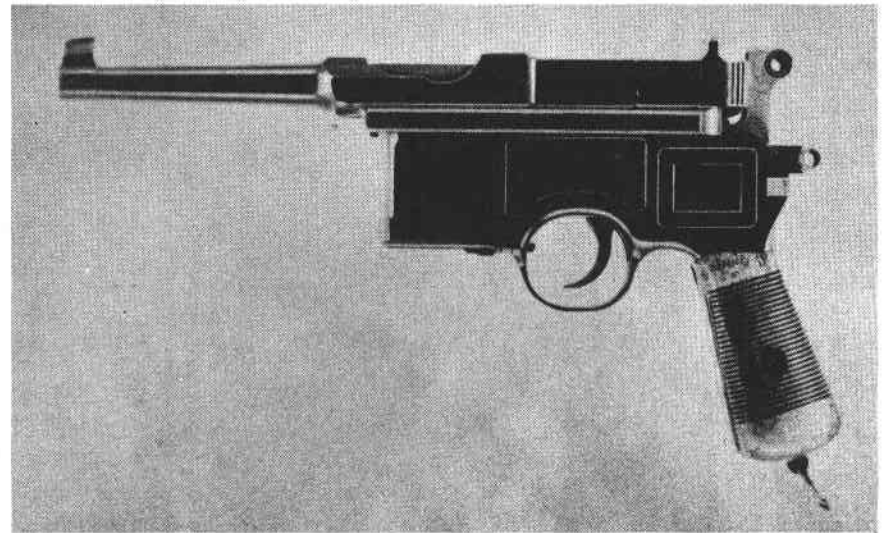
MAUSER MILITARY PISTOL FROM A PERSIAN CONTRACT. CONVENTIONAL 7.63 CALIBER, 5-1/2" BARREL.



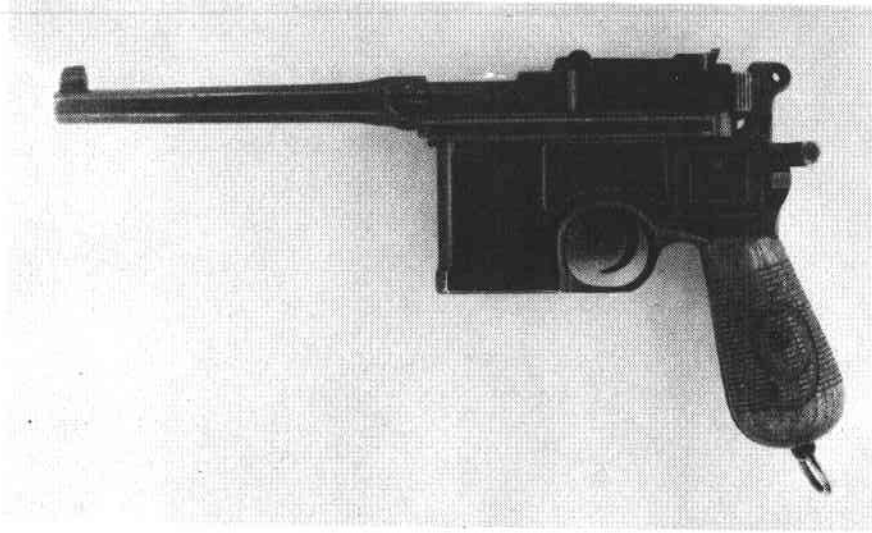
MAUSER CARBINE, DETACHABLE STOCK, 16" BARREL OF THE 1898 PERIOD.



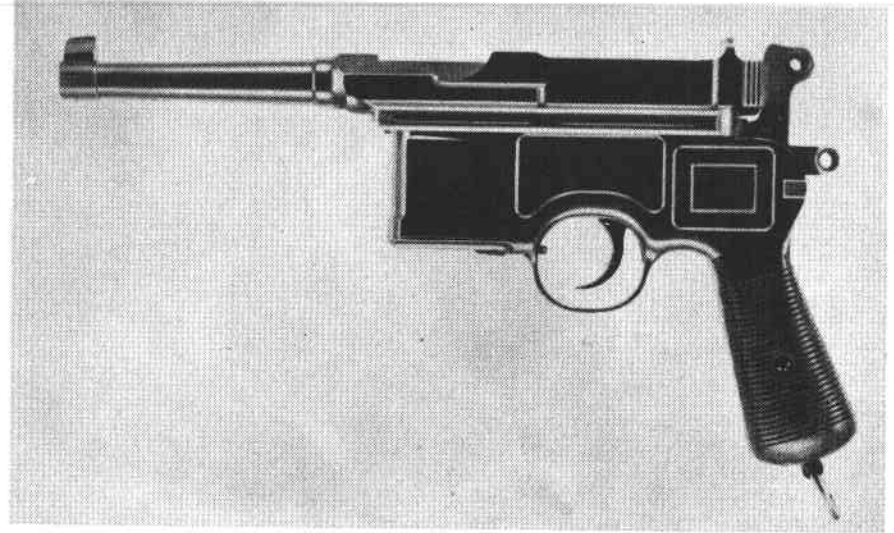
MAUSER CARBINE, DETACHABLE STOCK, 16" BARREL OF THE 1910-12 PERIOD.



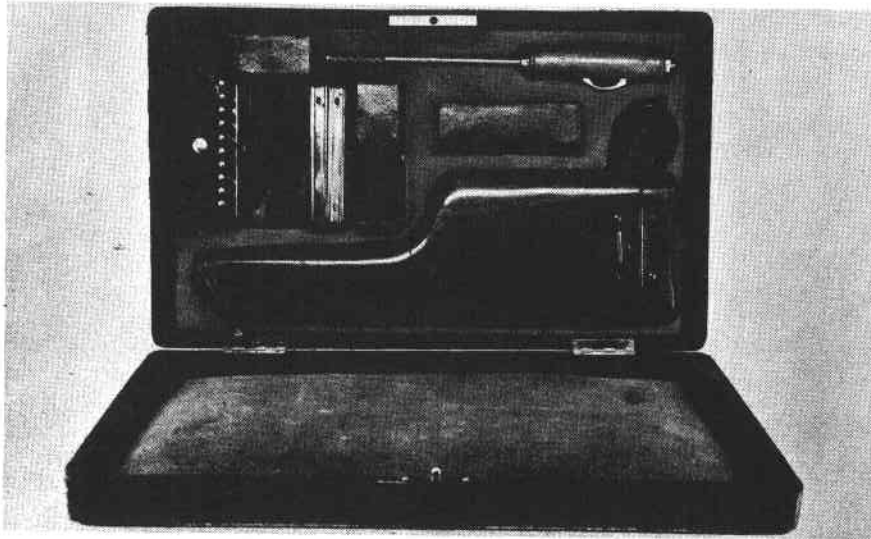
6-SHOT "BOLO," 4" BARREL, 7.63 MAUSER CALIBER. WIDE GRIP STRAP BUT NOT CUT FOR STOCK.



MAUSER MILITARY PISTOL IN 9MM PARABELLUM CALIBER. CONVENTIONAL "RED 9"



6-SHOT "BOLO" IN 7.63 MAUSER CALIBER. NARROW GRIP FRAME -- NOT CUT FOR STOCK.



CASED MAUSER PISTOL WITH COMPLETE ACCESSORIES.

EDITOR'S NOTE DUE TO CIRCUMSTANCES BEYOND JACK'S CONTROL, HE WAS UNABLE TO ATTEND THE MEETING AT THE LAST MOMENT AND FORWARDED HIS TALK TO US, SO HERE IT IS. THIS TALK GETS YOU BEYOND THE PROTOTYPE AND PRE-PRODUCTION PERIODS, HIS FORTH-COMING BOOK WILL CONTAIN THE BALANCE, A LITTLE BIRD TOLD ME.

thought the weapon to be promising if certain changes were made in its design and shape. Consequently, DWM continued to manufacture the Borchardt through 1897, although they had planned to discontinue it with the absorption of Ludwig Loewe. In addition, they continued to explore the possibilities of improving the pistol. Hugo Borchardt, inventor of the pistol, refused to revise what he believed to be a perfect weapon, and DWM finally decided to terminate manufacture at the end of 1897. While these problems with the Borchardt existed, the Mauser pistol took on greater importance, and the Berlin management had good reason, in mid 1896, to give Paul Mauser the authority to proceed with his work. Creating the Pistolenbau (Pistol Department) and bringing it into full scale operation took several months and a considerable amount of money. Mass production, consequently, did not actually begin until about April 1897. However, from September 1896 to April 1897 small batches of pistols were made for production development as well as design improvement.

The transition from preproduction to stabilized production involved the six months preceding April 1897. In this interval approximately 270 examples of the transitional pistols were produced. Most of these examples were numbered as part of the serial number sequence started in February 1896. Consequently, the transitional pistols are numbered within a group starting at about 90 and progressing to about number 360. Examples of 6, 10 and 20-shot pistols were produced. The quantity of each variety is not known, but the 10-shot undoubtedly accounted for the majority. Work on carbines with pistol mechanism may have started prior to April 1896, but no evidence is available to substantiate this.

In the transitional period Mauser and his assistants attempted and perfected many mechanical changes and revision as well as shape configuration. The first changes are detailed in a general set of factory assembly and cross section drawings prepared in December 1896. These drawings were made available to General Wille and most of them were published in his pamphlet "MAUSER-SELBSTLADER." It may be assumed that the changes contained in these drawings were introduced in the transition period through January 1897.

From the January 1897 drawings and surviving examples serially numbered below 360, a total of three changes and ten revisions are known. (the term change applies to modification of a functional part, "revision" pertains to a minor modification which does not effect the operation or assembly of the pistol). The three changes are shown in the factory drawings, while only one of the revisions appears in the drawings.

The first and most important mechanical change was the introduction of two locking lugs on the locking member and, therefore, two locking notches on the underside of the bolt. This change was retained in all Mauser pistols until the end of production. The second change involves an improvement in the method of supporting and guiding the mainspring housing. The third change pertains to the upper mainspring bearing plug. While the prototype and preproduction mainspring bearing plugs were identical front and back, the transition to production form changed the forward plug to give greater and more continuous support to the C-lever. The finely checkered grip pieces introduced on the preproduction pistols were, in the transition period, replaced by a smooth surface variety with a belt of 22 horizontal serrations. About 20 variations of grips are recorded for the pistol during the 43 years of its production. Several varieties of molded hard rubber grips were also used. That ten revisions are currently known does not mean only ten revisions were made. The scarcity of transitional specimen to study and the absence of factory records make it impossible to completely study this phase of the pistols development.

The principal reason for making most of the revisions was an effort to reduce the weight of the pistol. The German Service Revolver weighed 2-1/3 pounds while the 10-shot Mauser pistol weighed slightly over four pounds. Although the 6-shot Mauser pistol was developed expressly to provide a weapon that weighed within 3% of the service revolver. The 6-shot round capacity of the Mauser pistol was no improvement over the capacity of the revolver. Competitors of the Mauser pistol had 8 and 10-shot magazine capacities, consequently, the 10-shot pistol was a more important variety, and it was in Mauser's interest to reduce the weight of the pistol. As a result of machining revisions during the transition period, the 10-shot Mauser pistol was brought down to an average weight of just under four pounds.

All known examples of the 10-shot transitional pistols possess the two-line "SYSTEM MAUSER" marking over the chamber, the same as found on the 10-shot preproduction examples.

In April 1897, at about serial number 360, the pistol design was stabilized and all manufacturing procedure was established. The pistol plant was completely organized and operative, and with Joseph Feederle in charge, the commercial production of the pistol was started. Little or no design improvements or changes were made for about three years, with one noteworthy exception. In a period of three or four months after April 1897 the chamber marking was changed from "SYSTEM MAUSER" to "WAFFENFABRIK MAUSER OBERNDORF a/n" in three lines. Also, at about this time, a minor revision was made in the form and spacing of the numbers on the rear sight leaf. The change was the result of discontinuing the practice of individually engraving the numbers in favor of stamping all numbers with a single stroke of the press or marking machine.