The Great War Association
Central Powers Handbook:

Waffen u. Gewehre
(Weapons and Rifles)

NOT FOR RELEASE
UNTIL BETA 1.0
Please note, there are a few notes for things to add and also a few formatting things. Some text is “greyed-out”—meaning it needs to be re-written—just a note on that so you didn’t think it was in error. Yes, we know, sometimes we have repeated things in sections... oh well. Maybe it’s important, maybe it will get fixed in a future edit. You might see some formatting errors, as this document was brought through different programs to get where it’s at — again, as we say, bear with us and use this in German-ly comradeship.

Vorwärts

This Handbuch has been put together to help a new Rekrut in the GWA get properly outfitted and to help him become an integral part of our organization. This book is also intended as a guide and reference for all unit members. As such, the production of this Handbuch is an on-going project. All members of the Central Powers are encouraged to help in the research and production of this guide. My goal is that this manual has always been to make it easier for the new Rekrut to get properly outfitted and to become an integral part of the unit. Think of it as coming from a “replacement depot.” This Handbuch will teach you the things you’ll need to “get up to speed” as a German Soldier. It is also my hope to make this Handbuch a good reference for our “veteran” reenactors to help them too.

Please don’t think we will expect you to know all this information your first time out (or even second or third). This info will take some time for you to absorb, and for much of it, you must have attended an event for it to make sense. Still, print it out, read it over every once in awhile and use it as a reference — keep it in the bathroom if need be, (it is good bathroom reading) but do keep at it.

For their knowledge and help in putting this section of the Handbuch together, a hearty DANKE SCHÖN! is given to the following:

* Herrn Randall Chapman—of 3./J.R. 63 for allowing us to use many of his articles, photos and art. His gracious permission to use his materials has really enhanced our efforts here.

* Herrn Tom Galleher—IR92, for answering dumb MG questions and putting up with this.

* Herrn Doug Kingdom—member of J.R. 124, mentor, a true brother and more! Many a “discussion” there, but in the end, always worth it! Vielen Dank Kamerad!

* XX

These people above are among the most knowledgeable I know—ready to help anyone. Again, I must thank them!

Lastly, remember, this manual is meant to help all of us in our quest to find the real Frontsoldat—it’s not about “us” being better than “them.” It’s about us trying to do it right!

Thank you

Marsh Wise

Central Powers Representative 27.IV.2014

Comments? rudiweiss@ir23.org

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Weapons

Weapons are, of course, an integral part of the soldiers (and thus the reenactor’s) reason for being. Some common questions new reenactors ask are: “How do I clean my Gewehr? How do I replace the firing pin, or for that matter, take apart the bolt?” Hopefully the following will help you. The information is gleaned from a few different sources; chief among them is Mauser Rifles, a collection of old articles from the NRA magazine American Rifleman. Other information comes from a WWI German manual, v. Estorff’s Unser Infanteriedienst and another old German BGS manual, Der Karabiner 98k. The last, although it is about the K98k (the WWII variant of the 98 Gewehr) is still of great help—a Mauser 98 is a Mauser 98—there’s very little difference in the action! You may notice in the NRA illustration, the bolt in the artwork has a bent handle and the stock is a sporter model—ignore this, as American Rifleman is printed primarily for hunters and not for the collector of fine military weapons. Anyway, the information works just as well for a fine, factory-issue Gewehr 98 as it does for a Mauser that some fool has butchered into a “deer huntin’ rifle.”

The following is a condensed version of what the recruit would have been required to know about his weapons:

- **Basic Parts** (including serial number)
- **Disassembly & Cleaning**: In our group, the member has to be able to disassemble the bolt and dismount the floorplate. Further disassembly is not necessary (this will be explained further, later on in this Handbuch). To clean his weapon, the Landser was issued a small cleaning kit which contained a brush, an oil can and a cord-type pull-through.

The Gewehr 98 was also issued with a Seitengewehr (bayonet), in our case and for most German soldiers after about 1915, the S.98/05 “Butcher” Bayonet.

Other rifles

Other rifles occasionally seen in the hands of the Frontsoldat would have included the Kar. 98A carbine and the Gewehr 88—in our group, only specialists usually carry these.

Schießlehre

Marksmanship instruction was called Schießlehre. The trainee would fire a certain number of rounds from various positions and ranges and would have the results logged in a small book called a Schießbuch.

**Pistols**

Pistols were meant as a self-defense weapon for soldiers who did not carry a rifle or sub-machine gun. Many different types were used, including many foreign models. The primary models were the P.08 “Luger” and the C.96 “Broomhandle” Mauser and the M.1879 “Reichs” Revolver. Typical soldiers who carried pistols included machine gunners and their assistant artillermen and mortar crewmen. A note on pistols: Many soldiers carried small “pocket pistols” as a last line of defense or for easier use on raiding parties—as such, their use is encouraged. These small pistols will be covered elsewhere in this chapter.

**Grenades**

There were many types of grenades; among the most common were the small ovoid “egg” grenades, and, of course, the infamous “potato masher” stick grenade.

**Thoughts on buying a Gew. 98**

When buying a Gew. 98, it is best to buy a real German military Gew. 98 rather than an export-model Mauser. The export models, in spite of similarities to a German issue Gew. 98, are often not built to the same high standards. These look-alike models also tend not to function as well as the real thing either.

**Condition**

While your weapon should be clean, and in reputable condition, the use of collector grade weapons is frowned upon, as WWI reenacting is very hard on the finish of your weapon. There are unit armorers available to help with any problems you may have in making the weapon fire. These armorers can also give instruction in helping the member to refinish his weapon properly, if needed.

*A BIG note here: If you drop a stripper clip of ammo on the ground, DO NOT LOAD IT, this will cause a jam for sure! If you have a problem with your Gewehr or don’t know what to do, ask your Gruppenführer for help!*

ADD BAYONET PAGES
Rifle, Gewehr 98 Mauser with Sling
(Gewehr 98 mit Schulterriemen)—The Gewehr 98 was the standard service weapon for the German Army during WWI and one which was familiar to all of Germany's servicemen.

The Gew. 98 is an internal-magazine-fed, bolt-action rifle, with a capacity for five rounds of ammunition. The ammunition that the Gew. 98 is chambered for is the standard German 7.92 x 57mm round.

The Gewehr 98 is the service weapon of Inf.Rgt. 23. We’ve found no evidence to indicate that during WWI, line infantry soldiers in Inf.Rgt. 23 were ever issued with any weapon other than the standard Gewehr 98. As such, all members are REQUIRED to possess a proper Gew. 98. Each rifle will be complete with a sling, parade clip and cleaning rod. The Gew. 98 also must have the “Lange” type rear sight (called the “roller coaster” sight by collectors).

Other Rifles

Now, after sounding all grim and hard-assed, some specialist troops often were armed with other rifles (Kar 98a, Gew. 88) and as such, it will be permissible for them to carry such rifles. Ask before doing this, please!

Das Gewehr 98

Weight ..........................................................................................9lbs
Weight with bayonet ........................................................................9lbs, 14 oz
Length............................................................................................4ft. 1¼ in.
Length of barrel ............................................................................29.05 in.
Caliber .........................................................................................7.92 x 57mm or 31.1 cal.
Rifling, number of grooves .................................................................4
Depth of grooves ...........................................................................0.065 in.
Extreme sighting-capacity .........................................................2000 meters or 2187 yards
Bullet .................................................................steel jacket, coated with nickel or copper
Muzzle velocity ........................................................................2960 fps
Mauser 98 exploded

Legend
1 Cocking piece
2 Safety catch
3 Bolt sleeve
4 Bolt sleeve stop spring
5 Bolt sleeve stop
6 Firing pin spring
7 Firing pin
8 Bolt (stripped)
9 Extractor collar
10 Extractor
11 Bolt (complete)
12 Bolt stop screw
13 Bolt stop and spring
14 Ejector
15 Receiver (stripped)
16 Barrel
17 Stock
18 Magazine follower
19 Sear spring
20 Sear
21 Sear and trigger pins
22 Trigger
23 Latch retainer pin
24 Magazine and trigger guard
25 Lock screw
26 Front guard screw
27 Magazine follower spring
28 Magazine floorplate
29 Magazine latch spring
30 Magazine latch
31 Rear guard screw
32 Buttplate
HOFFMANN EXLODIEREN FOLD-OUT
ON LEGAL PAPER, W/ SPECS... AND
NOMENCLATURE
Field-Stripping the Gewehr 98

A normal field-stripping includes removing the bolt and floor-plate. According to regs, the Gewehr should only be taken apart to the point that is absolutely necessary. “The Soldier may strip and reassemble the bolt, remove the floor-plate, cleaning rod, muzzle cover and sling. Stripped parts always should be put onto cleaning-rags.” Any additional stripping was to be only be done by qualified ordinance technicians. Yes, we know that you own this rifle and yes, we know that as a God-fearin’ American, it is not only your right, but DUTY to strip your rifle down to the bare nothin’... and learn it’s intimacies back to front, but... in most armies, especially “back in the day,” they did not want the soldiers doing this. If you have ever been in the service, you will remember how some guys could lose their hands if they weren’t attached to their bodies... it was this way then too. Not all German soldiers were Teutonic engineering gods...

The bolt is broken down by separating the bolt body/extractor assembly from the bolt sleeve/firing pin assembly to allow cleaning.

To remove the bolt

Lift the bolt handle, pull it back to be sure the chamber is empty. Close it, and turn the safety catch to the vertical position. Open the bolt again, and pull it back until it stops. Next, push the forward end of the bolt stop out as far as it can go. You can now pull the bolt assembly out of the Gewehr.

To disassemble the bolt

To remove the bolt sleeve and firing pin assembly, push the bolt sleeve stop in as shown. When the stop pin is pushed in far enough, you will be able to screw the assembly out. As you start to turn it, it will be necessary to press the stop pin again to get it around the bolt handle.

To remove the bolt sleeve and firing pin

To disassemble the bolt sleeve, first rest the point of the firing pin against a block of wood to prevent it from getting damaged. Next, grasp the bolt sleeve as shown and press down hard until the cocking piece is clear of the bolt sleeve. Turn the cocking piece one quarter turn as shown, and lift it off. Ease up on the pressure and remove the bolt sleeve and firing pin spring. Perform the operation away from your face, for the firing pin spring is very powerful.

To remove the extractor

To remove the extractor, turn the extractor away from the bolt handle as far as it will go. Then using a screwdriver, pry the front end of the extractor up and out of its groove in the bolt. Revolve it a bit further until it is in between the locking lugs. Tap the end of the extractor on the bench as shown. The extractor will snap free, exposing the extractor collar. Do not remove the extractor collar unless absolutely necessary.
To remove the floor-plate

To remove the floor-plate, take a pointed object and while pushing in on the button, push the floor-plate cover towards the trigger guard. It will pop out along with the floor-plate, the magazine follower and magazine follower spring. In reassembling the floor-plate, it must be pushed strongly against the trigger guard housing, while pushing it forward until the holding-pin snaps into place.
ADD CAPTIONS TO COLOUR PIX IN, ID. NOT ON ART.
Visier
Lange rear sight

Visierschieber
(Sight slide)

Visierklappe
(Sight leaf)

Visier auf 1300m
gestellt (Sight
adjustment to
1300 meters)
Bolt and Receiver Components

Key:
A - Kammer / bolt body
B - Schlößchen / bolt sleeve
C - Sicherung / safety lever
D - Schlagbolzenmutter / cocking piece
E - Schlagbolzen / firing pin
F - Schlagbolzenfeder / firing pin spring
G - Drückbolzen / bolt sleeve stop
H - Drückbolzenfeder / bolt sleeve stop spring
a - Vordere rechte Kammerwarze / forward right bolt lug
b - Vordere linke Kammerwarze / forward left bolt lug
c - Hintere Kammerwarze / rear bolt lug
d - Führungsliste / guide rib
How to fire the Gewehr 98

Starting with the gun in its fired condition, with an empty magazine and nothing in the chamber:

- Ensure the safety catch A is in the off position, rotated toward the left side of the cocking piece, otherwise the bolt cannot be opened.
- Lift the bolt handle B and retract the bolt until it will travel no farther, being held by the stop. Take a five-round charger (stripper-clip), insert it in the guides C milled in the front edge of the receiver-bridge (ahead of the bolt handle slot) and press the cartridges downwards with the thumb into the magazine.
- Alternatively, press five loose rounds individually into the magazine.
- Close the bolt and turn the handle down into its seat, automatically ejecting the empty charger if it has been left in the guide. As the closing bolt has automatically loaded the first round, the gun may be fired by squeezing the trigger D.
- Alternatively, the safety catch may be applied by rotating it towards the right, locking the bolt and trigger mechanism.
- When the last round has been chambered, fired and ejected, the magazine follower will prevent the bolt closing unless it is pressed downwards with the thumb while pressing slowly forward on the bolt.

Positions of the safety lever
(as viewed from the rear)

A-Lever to the left—ready to fire
B-Lever up—on “safe”
C-Lever to the right—“cocked and locked”
INFO ABOUT ARSENALS

INFO ABOUT ARSENALS
INFO ABOUT ARSENALS
Rifle Sling and attachments

Öse und Klammer
Parade loop and
Snap swivel

MORE SLING INFO
Cleaning the Gewehr 98

(Gewehr Reinigung)—Cleaning your Gewehr thoroughly after use is important for a number of reasons. Some of the blanks we use are corrosive and can cause your Gewehr to rust badly. If left for too long in this condition, the Gewehr will not function. If the chamber becomes pitted, you will have problems not only feeding rounds but also in extracting the spent case. It is unbelievable how many re-enactors have to use our old Mosin-Nagant cleaning rod to remove a stuck case from their Gewehr. To prevent yourself from being put out of action in this manner and to preserve your Gewehr, all you have to do is follow a few basic steps.

For starters, buy a good gun cleaning kit, preferably one with a coated steel rod (aluminum breaks). At the same time, buy yourself an 8mm Mauser bore-brush, a big bag of cleaning patches (1000 or so) and a large bottle of Hoppes #9 solvent. A cleaning brush would be handy too, but you can use an old toothbrush.

1. Remove the bolt and set it aside.

2. Put the brush on the rod and dip it in the Hoppes. Now run this brush up and down the bore 25 passes or so, re-dipping the brush a couple of times as you go. Check the bore, and if it looks like it needs it, give it 10 more passes with the Hoppes filled brush.

3. Next take a clean patch and dip it in the Hoppes and run it through the bore—it will come out as black as a Frenchman’s heart. Repeat this 3-4 times. Follow that with 3-4 dry patches.

4. Clean out the chamber with a chamber brush dipped in the solvent. At this time, clean the bolt guides with the toothbrush mentioned earlier. The receiver bridge should be cleaned now also.

5. Clean the magazine well and follower using patches dipped in solvent.

6. At this point, wet a patch with Hoppes and run it through the bore again. Then run dry patches through the bore until they come up with no solvent on them. Repeat this step until the dry patches come up clean.

7. Now put a little gun oil on a clean patch and run this through the bore a couple of passes to lightly oil the bore. If more black stuff comes out on the patch, repeat step 6.

8. Set the Gewehr aside and begin on the bolt. Take it apart as detailed in this manual and clean every part, paying special attention to the bolt face.

9. Put the bolt back together, lightly oiling it as you go. Next, put the Gewehr back together, lightly oiling all the metal parts of the weapon.

If you do this after every reenactment or firing of your Gewehr, it will last a long time, providing you and the Kaiser with many years of good service.
We’ve all had the fun of eating good food with rusted or beat-up mess gear, or of cleaning and de-rusting all of our metal gear after an event, it’s part of the experience. The WWI Eßbesteck (fork-spoon combination) is made of plain steel for the most part (not aluminum), so we have all probably tasted a little bit of rust, or endured frantic grinding on our spoon prior to digging in to that steaming Kochgeschirr of Würst and Sauerkraut.

Ever wonder how the real soldiers in the German Army kept that Eßbesteck from rusting, yet didn’t have to coat it with some foul-smelling, and even worse, tasting goop? Endless polishing—perhaps power-polishing? Was it just another 19th century stunt to take up soldiers free time with endless, mindless polishing?

**German Gun Oil**

For that matter, what sort of gun oil did the German army have? All of us are supposed to have bottles of this oil, or cans containing patches soaked in it, in our cleaning kit. Part of your duty as a soldier, after all (as well as generally being a good idea), is to keep your weapons cleaned and good condition. Remember, the German people paid for that stuff, it isn’t yours to waste. If you treat it badly enough the guard house (Arrestzelle) awaits, or even worse, the cost of these items could be deducted from your pay!

What’s the answer to all this?? Well, read-on! At the turn of the century the German army asked for a new type of gun oil—one that was able to do the job of protecting its equipment in all conditions. They also demanded a substance that would protect leather gear and wood also, not just be your average grease—a seemingly impossible goal!

1904

A man named Dr. Helmut Klever built the better mousetrap in 1904 and won the competition. Dr. Klever named his invention Ballistol combining the words “ballistic” and “oleum.” In 1905, the German Army approved Ballistol and began issuing it out fairly quickly. Dr. Klever’s invention became the standard gun oil for the German Army before and during World War One and... it is still being made today!

Ballistol is an oil that is fantastic for not only lubricating and protecting metal parts, like on rifles, and for preventing corrosion, but, it also has many other uses: It is edible, smelling somewhat like pine It protects leather, kills fungus, deters insects, and helps wood a great deal. It is even antiseptic killing bacteria and germs, and can be used as an antiseptic on cuts. Ballistol also emulsifies in water, meaning that it mixes with it, and then stays behind as a protective coating when the water evaporates. In short, it does a lot of good things, and was widely issued by the German Army.

**Where to Find Ballistol**

If you want Ballistol, it is usually available at sporting goods stores, but often only in a aerosol-spray can. Several distributors advertise that they have it available in a pump or bottle format, which would be much better for repackaging into a more WWI-friendly format. One such distributor is:

**BALLISTOL USA**

c/o: Washington Trading Company, Inc.
One Cypress Knee Trail
Kitty Hawk, NC 27949
800 253 2460
252 261 0408 (fax)
E-mail - info@ballistol.com

**On the Web**

Ballistol also has a web site on the internet located at: [http://www.ballistol.com/](http://www.ballistol.com/) this web site also has ordering information, etc. and some more history of the oil. Give it a try, this stuff really does work great!
Medic armed with a Pistole (there was no Geneva Convention yet to prohibit the arming of medical personnel.)
Side Arms

(Seite Waffe)—The open wearing of side arms is not allowed except for senior NCOs (Sergeants and above) and officers.

Other ranks may carry a Pistole only with the permission of their Zugführer with the following proviso:

1. During the day only pocket-type Pistolen may be used. They must be carried inside the pocket of the tunic and MAY NOT be worn in a holster.

2. Other ranks may carry a large bore Pistole only during night-time trench raids.

3. All Pistolen must of period type and manufacture, i.e. P-08 Luger, Reichs Revolver, C.96 “Broomhandle” Mauser, Mauser 1910 Model pocket pistol.
An exploded-view drawing of the P.08 Luger

Key: 1 front sight; 2 barrel; 3 receiver; 4 ejector; 5 rear connector pin; 6 sear-bar spring; 7 sear-bar plunger; 8 sear-bar plunger spring; 9 sear-bar plunger pin; 10 sear-bar; 11 hold-open latch; 12 hold-open latch spring; 13 coupling link; 14 rear toggle link; 15 front toggle-link pin; 16 coupling-link pin; 17 rear toggle pin retainer; 18 front toggle link; 19 breechblock; 20 extractor; 21 extractor spring; 22 front toggle pin; 23 extractor pin; 24 firing pin; 25 firing pin spring; 26 firing-pin spring guide; 27 frame; 28 locking bolt; 29 locking-bolt spring; 30 trigger; 31 trigger spring; 32 trigger plate; 33 trigger lever; 34 trigger-lever pin; 35 magazine catch spring; 36 safety bar; 37 safety lever; 38 safety-lever pin; 39 magazine; 40 magazine catch; 41 recoil-spring lever; 42 recoil-spring lever pin; 43 recoil spring; 44 recoil-spring guide; 45 grip; 46 grip screw. By courtesy of John Batchelor.
How to fire the P.08

Starting with the gun in its fired condition, with an empty magazine in place and nothing in the chamber:

- Holding the pistol in the right hand, pull upward on the toggle-grips A until the action is held by the hold-open in the frame well; any spent case (or even a live round) will be ejected from the chamber.
- Press the magazine catch B to release the empty magazine C, and withdraw it from the magazine well.
- Replenish the magazine, or, if a fresh one is at hand, insert it in the butt and push it upward until the magazine catch springs back into place.
- The toggle mechanism should not close automatically as the magazine is inserted, and must be retracted slightly before it can run forward to load the first round into the chamber.
- If the safety lever D is in its forward position, the gun may be fired; to lock the sear, the bar is simply rotated backward to expose (on German service pistols at least) the word GESICHERT.
- When the last round has been fired, and automatically ejected, the toggle mechanism will stay open; it can be shut by pressing down on the magazine follower, holding the toggle back until it can be gently run forward.
An exploded-view drawing of the C96 Mauser

Key: 1 barrel and barrel extension; 2 extractor; 3 Bolt; 4 bolt stop; 5 firing pin; 6 firing pin spring; 7 recoil spring; 8 trigger spring; 9 magazine plunger; 10 trigger; 11 rocker plunger; 12 mainspring; 13 mainspring plunger; 14 bolt locking block; 15 sear arm; 16 sear; 17 sear spring and hammer pivot; 18 hammer; 19 lock mechanism frame; 20 lock frame stop; 21 safety; 22 rocker coupling; 23 receiver; 24 lanyard ring; 25 left-hand grip (with red “9” engraved in side of grip to show that this weapon is chambered for the 9mm Parabellum round); 26 grip screw; 27 follower spring; 28 follower; 29 magazine floorplate

The C.96 Mauser pistol was a nineteenth century design, ironically making use of the cartridge designed by Borchardt—inventor of the Parabellum’s immediate predecessor. The famous “Broomhandle” had the official factory designation “C.96,” the C representing Construction, to separate it from the military guns, which all bore the prefix Modell.

An elegantly engineered gun, though externally somewhat clumsy, the Mauser C.96 embodied a recoil-operated action locked by a rising block beneath the breech-bolt. Mechanically, the pistol is remarkable in having no pins and only one screw, the latter retaining the grips. All internal parts that require a pin or pivot are machined from solid stock so the pin is integral with the part. The C.96 could not be mistaken for anything other than a Mauser (apart from a Spanish copy), as it had a distinctive integral stripper clip-loaded magazine immediately ahead of the trigger aperture.

After an uncertain start, and an unwanted reputation for persistent jamming, the C.96 had been developed
How to fire the C.96

Starting with the gun in its fired condition, with an empty magazine well and nothing in the chamber:

- Holding the pistol in the right hand, pull rearward on the bolt A until the action is caught and held by the hold-open in the frame well; any spent case (or even a live round) will be ejected from the chamber.

- Take a ten-round stripper-clip (Ladestreifen), insert it in the guides B milled in the front edge of the receiver-bridge (ahead of the rear sight) and press the cartridges downwards with the thumb into the magazine.

- Alternatively, press ten loose rounds individually into the magazine while holding the bolt back manually [this doesn’t work very well! — RW].

- Remove the stripper-clip, allowing the bolt to run forward loading the first round into the chamber.

- If the safety lever C is in its rearward position, the gun may be fired; to lock the safety, the lever is simply rotated forward.

- When the last round has been fired, and automatically ejected, the bolt will stay open; it can be shut by pressing down on the magazine follower with one’s finger, while holding the bolt back until it can be gently run forward [This keeps the bolt from smashing said fingers when it closes — RW].

into a powerful battle-worthy weapon let down only by its clumsiness. It even made a passable light semiautomatic carbine with its convertible wooden holster/shoulder stock attached.

Although the C.96 was never officially adopted by the German military, large numbers of 9mm C.96’s were purchased and saw service with the German military during the Great War. These were chambered for the regulation 9mm Parabellum cartridge, and many guns—7.63mm and 9mm alike—survived to serve the Reichsmarine and Weimar-period police.
Receiver Cover
(Schloßschoner)—Receiver covers of feldgrau cloth and metal were widely used during trench warfare. These covers served to protect the action from mud and foreign debris.

The cloth Schloßschoner was cut to the shape of the Gew 98 with a fitted pouch to accommodate the bolt. Buttons, or buckles attached to leather straps, secured the receiver cover to the weapon. There was also a tie-on model cloth Schloßschoner that was clumsy to use.

The metal Schloßschoner is constructed to hinge out of the way when the bolt opens. It is much faster to use, requiring the user to merely open the bolt, instead of unbuttoning a cover. Until recently, this was a rare item, but they are now being reproduced in Deutschland and are available here.

Muzzle Cover
(Mündungsschoner)—The muzzle cover was issued to each soldier along with his Gewehr. Not only did it serve to keep moisture and dirt out of the weapon when not in combat, but it also served as a guide for the cleaning-rod to reduce wear to the muzzle of the Gewehr.

Detail by F. Hoffmann
Metal Receiver Cover

The Scenario

*It’s 1915.* As you crouch in your muddy trench home, a shower of shells land all around you—machine gun bullets sigh past overhead, on their way to bury themselves in the country-side or your Kameraden. The rest of your Gruppe crouch nearby, huddled down, hiding from the roaring lottery of death around them. A 28cm shell splats into the ground just behind the trench; mud fountains high into the air, splattering down onto you and your friends.

An „American,” as the old-timers call it crashes, into the earth only a few score meters off; and another shower of mud, debris, and corpses rains down all around you. A large dollop of mud—stinking of rot—flies past your helmet and right into your Gewehr’s receiver! The evil stuff oozes into your bolt as you frantically try to wipe it clean. A whistle!—Shots! The French are coming! Rising, you lift your Gewehr and fire, even as a Kamerad next to you struggles to undo the cloth cover he has tied over his own rifle's action.

Working the bolt, you feel the grind as the gritty mud stops the action from fully closing. Pushing hard you close it Fire. And then it will work no more. The first French at the trench ram bayonets into your Kamerad, even as he thrusts at one He never got his cover off. Rifle useless, you bayonet one, and he falls to the bottom of the trench. Behind him, a French officer levels a revolver at you. Pulling the bayonet from the screaming Frenchman, you move towards him but he is too far away. As your bayonet comes slowly lip, flame leaps from the revolver, and you see nothing more.

The Solution

By 1917, the German army had devised a creation to help keep mud out of the receivers of the Gewehr 98, as well as many other improvements such as 20-round magazines, night sights, low-light optical sights, and anti-aircraft sights. Some are now available as reproductions for us to use in the field. Almost all of these improvements are creations of trench warfare.

A company named Inter Ordinance is now importing, from Germany, a reproduction of the W.W.I Gewehr 98 action cover. This thing looks great! It is stamped steel, blued, made up of two main parts, the cover and a clip, that are linked by a rod. The originals of these are now very rare. These replicas are even stamped with proofmarks, including a crown/W inspector’s stamp. If you have access to Bannerman’s 1927 catalog or book on the Mauser G98, you will see the cover mounted on the Gew.98 in his drawings.

Inter Ordinance can be reached at:

Inter Ordinance of America, L.P.
3904-B :Sardis Church
Monroe, NC 28110

or, by telephone at 704.821.8337. If you can, it is best to fax them at 704.821.8523. This is the fastest and best way to get through.

These covers are (were) also available from SARCO, Inc.

*Scloßschoner* art by Fritz Hoffmann
Ammo and Related Items

Ladestreifen
(called “stripper clips” in America)

Ammo Key
A: Clip of 5 live rounds
B: Dummy round
C: Blank round
D: Grenade launcher blank

A Frontsoldat wearing an ammo Bandolier and cartridge pouches
Ammo Bandolier
(Patronentragegurte)—Frontsoldaten were often issued bandoliers to give them more of an ammo reserve. Holding 220 rounds, these bandoliers had the ammo sewn in and when removing the ammo clips, the soldier would tear off the lightly sewn on cover strip. Considered as disposable, they had ties on the ends to attach to one’s belt. Often worn by the Stoßtruppen who, many times, carried two or even three of these bandoliers instead of the standard M.1909 ammo pouches.

This bandolier below doesn’t have end-ties, instead, it has the bottom pockets doubled and formed into a loop to slip one’s belt through.
INFO ON AMMO BANDOLIERS AND HOW TO LOAD, ETC.
The Maschinengewehre Units

Unquestionably the premier infantry weapon of the German Army was the machine-gun. Initially, German machine-guns were organized into special machine-gun companies armed with 6 heavy sled mounted Maxim ‘08 guns. The German army appreciated the usefulness of machine-guns prior to the war; however even they were unprepared for the vast numbers of machine-guns that the war would demand. In addition to the regular regimental machine-gun companies, special independent machine-gun companies were established. In late 1915 a lighter version of the MG ‘08 appeared, designated the MG ‘08/15. This gun was lighter and mounted on a bipod. The ‘08/15 was distributed within the various companies of each regiment.

The Maschinengewehr Scharfschützen

In 1916 special elite machine-gun companies were formed—designated Maschinengewehr Scharfschützen-Truppen (machine-gun sharpshooter troops), these troops were armed with the heavy MG ‘08 and were given special training. Only those men who had completed the Machine Gun course were allowed to wear the badge—not every Thomas, Dietrich or Heinrich that was using an MG got to wear it—contrary to reenactor practice.
The Maxim MG08 (or “Maschinengewehr 08”) was a copy of the original machine gun as developed by Sir Hiram S. Maxim in 1884. Hiram was born in Sanger ville, Maine in 1840 and emigrated to England. There, he focused in on the wide open field of mechanical inventions and became ultimately best known for his deadly Maxim machine guns - effectively the world’s first portable fully-automatic machine gun system. The German Army made a direct copy of the weapon and utilized it as the standard machine gun throughout World War 1. The machine gun generated a terrible presence as the appearance of just a single such unit could very well turn the tide of a given battle in favor of the users. Astonishingly, the lack of Mg.34 machine guns leading up to World War 2 ensured that the Maxim ‘08 (and later ‘08/15) was still in use with German troops for a time. The Maxim ‘08 and ‘08/15 lasted in operational service from 1908 (hence the designation) until 1945, the final year of World War 2.

A Beginning

Hiram Maxim demonstrated his machine gun in 1887 to which Germany tested out the concept thoroughly for years thereafter, culminating in a limited quantity Germany Army purchase in 1895 and an ensuing German Navy purchase by 1896. More field testing followed and the weapon system was officially introduced into the German Army in 1901 as the refined “Maschinengewehr 08”. War would eventually come to Europe and the Maxim MG08 arrived just in time for it.

Technical Stuff

The Maschinengewehr 08 (or MG 08)—so-named after 1908, its year of adoption—was a development of the license made Maschinengewehr 01. It could reach a firing rate of up to 400 rounds per minute using 250-round fabric belts of 7.92x57mm ammunition, although sustained firing would lead to overheating; it was water-cooled using a jacket around the barrel that held approximately one gallon of water. Using a separate attachment sight with range calculator for indirect fire, the MG 08 could be operated from cover. Additional telescopic sights were also developed and used in quantity during the war.

The MG 08, like the earlier Maxim gun, operated on the basis of short barrel recoil and a toggle lock; once cocked and fired the MG 08 would continue firing rounds until the trigger was released (or until all available ammunition was expended). Its practical range was estimated at some 2,000 metres (2,200 yd) up to an extreme range of 3,600 metres (3,900 yd). The MG 08 was mounted on a sled mount (German: Schlittenlafette) that was ferried between locations either on carts or else carried above men’s shoulders in the manner of a stretcher.

With war in full swing by 1915, the MG08 had a “muzzle booster” fitted to improve her cyclic rate-of-fire. The muzzle booster offered an improvement of up to 45% to the action as the weapon could now reconstitute some of the existing propellant gasses and force it onto the recoil barrel for a little added boost. These Maxims took on the technical designation of “Rlckstorsverstarker S”.

At its core, the Maschinengewehr 08 offered up impressive performance statistics of 400 to 450 rounds per minute, firing off 7.92x57mm Mauser caliber via a revolutionary short-recoil system that featured an integrated toggle lock. Essentially, all the operator had to do was pull the trigger and each subsequent round was fired off by using the recoil action created by the preceding round’s exit from the barrel. The ammunition was fed via a cloth-type fabric belt issued as a separate attachment sight with range calculator for indirect fire, the MG 08 could be operated from cover. Additional telescopic sights were also developed and used in quantity during the war.

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lay prone nearby.

**Sledge Mount and Accessories**

Early MG08s were issued with a cumbersome and heavy “sledge” type mounting designated in the German literature as “Schlitten 08”. Together with the near-sixty pound gun, the MG08 unit weighed in at nearly 140lbs. The weapon was also issued with two extra barrels, a water-cooling canister and applicable tubing. As such, a crew of four were required to port the weapon system about. This encompassed the gunner (carrying the gun), a soldier to carry the mount, another comrade to shuttle the ammunition to and fro and the final soldier to lug the water canister and tubing. If a cart was available, all the better. Despite it weight and number of parts, it was still deemed a portable system by 1915 standards.

As heat became an automatic weapon’s worst enemy, the Maxim MG08 utilized a water “jacket” fitted around the barrel. The jacket was filled with water (roughly 1 gallon) via a hose attached to the water canister. The water surrounding the hot barrel would boil off most heat generated from the barrel and help maintain some long term integrity to the system during sustained firing. In comparison, other machine guns worked off of a simpler air-cooled philosophy, utilizing the cool air around a barrel to keep the barrel from overheating. However, this method cooled a lot less efficiently and required changing of the barrel before the heat would crack it.

**Production**

Production of the MG08 was handled principally through Deutsche Waffen- und Munitionsfabriken AG of Berlin in the years leading up to the war. Deutsche Gewehr- und Munitionsfabriken Spandau became another key production contributor. Spandau machine guns took on the name of “Spandau 08” and were oft-featured as the primary armament of many German fighters and bombers of the war. Production of both versions reached a fever pitch once the war was in full swing. Erfurt Government Arsenals also added to the production tally.

When the war began in August 1914, approximately 12,000 MG 08s were available to battlefield units; production, at numerous factories, was however markedly ramped up during wartime. In 1914 some 200 MG 08s were produced each month; by 1916—one the weapon had established itself as the pre-eminent defensive battlefield weapon—the number had increased to 3,000; and a year later to 14,400 per month.

**Improvements**

While the MG08 proved effective enough in the early years of the war, attempts were made at lightening the system. The MG08/15 (developed in year 1915, hence the designation) represented a more portable version complete with a pistol grip, shoulder stock and light bipod. A relatively lighter tripod design appeared in 1916 to replace the cumbersome Schlitten 08s and fall under the designation of Dreifuss 16 (“Dreifuss 16”). The MG08/15 was unleashed against Allied troops in April of 1917, utilized as the ultimate shock weapon against unsuspecting rifle-toting Frenchmen. From there, its reach spread to more and more fronts of the war as they became available, proving the bulkier and heavier original MG08 less popular by the end of the war.

**The MG ‘08/15**

A lightened and thus more portable version — by “stepping-down” the upper rear and lower forward corners of the original MG 08’s rectangular-outline receiver and breech assembly, and reducing the cooling jacket’s diameter to 92.5 millimeters — was tested as a prototype in 1915 by a team of weapon designers under the direction of an Oberst Friedrich von Merkatz—the MG 08/15. The MG 08/15 had been designed to be manned by four trained infantrymen spread on the ground around the gun and in the prone position. To accomplish that purpose the MG 08/15 featured a short bipod rather than a heavy four legged sledge mount, plus a wooden gunstock and a pistol grip. At 18 kg, the MG 08/15 was lighter and less cumbersome than the standard MG 08 since the MG 08/15 had been designed to provide increased mobility of infantry automatic fire. It nevertheless remained a bulky water-cooled weapon which was quite demanding on the quality and training of its crews. Accurate fire was difficult to achieve and usually in short bursts only. It was first introduced in battle during the French “Chemin des Dames” offensive in April 1917 where it contributed to the very high casualty count among the French assailants. Its deployment in increasingly large numbers with all front line infantry regiments continued in 1917 and during the German offensives of the spring and summer of 1918. The MG 08/15 became, by far, the most common German machine gun deployed in World War I (Dolf Goldsmith, 1989) since it reached a full allocation of six guns per company or 72 guns per regiment in 1918. By that time, there were four times as many MG 08/15 light machine guns than heavy MG 08 machine guns in each infantry regiment. To attain this goal, about 130,000 MG 08/15 had to be manufactured during World War I, most of them by the Spandau and Erfurt government arsenals.

**One Final Improvement**

One final development of the MG08 line became the MG08/18. This system was developed as an air-cooled...
alternative to the bulky water-cooled arrangements of the MG08 and MG08/15. Though tested under combat actions in the last year of the war, the MG08/18 failed to make much of an impact. Its air-cooled barrel needed changing to prevent overheating but the process proved too clumsy to change quickly in the field. As a result, operators were cursed to a lower rate-of-fire to avoid prolonged action and keep the barrel cool. To help alleviate this limitation, the German Army was forced to field the MG08/18 as groups of three systems, charging each gunner team to fire at intervals.

**Afterwards**

The Maxim company was purchased outright in 1896 by the British firm Vickers. The famous Vickers Machine Gun was based on the Maxim machine gun and benefitted the original design by reducing the former’s weight and adding a muzzle booster. The Vickers version appeared in 1912 and was produced into 1968. Some are still in service with Pakistani, Indian and Nepali forces as reserve implements.
The German Machine Gun of WWI

by Rick Keller
Great War Militaria

The peacetime infantry regiment (and Jaeger Battln.) had a machine gun company with 6 Heavy sled mount MG08 Maxim machine guns (HMG) and one spare. In 1915/16, there was a need for additional firepower, so special supplementary machine gun sections consisting of 30-40 men with 3 or 4 guns were created. These sections were attached as required to the infantry regiments, and in many cases were immediately absorbed to create a 2nd machine gun company per regiment, so that by the end of 1915, several regiments had two machine gun companies. During the winter of 1915-16, after initial successes of the machine gun on the battlefield, a new “Machine Gun Marksman Sections” (MGSS) were organized and trained to fully exploit the full potential of that weapon. These men underwent a 4 to 5 week school that specialized in the use of the machine gun in an attack. These newly formed 200 units were specially allotted to infantry regiments, and in many cases were immediately gaged in active operations. They proudly wore on their left sleeve a metal badge of an MG08 heavy machine gun surrounded by a belt of cartridges. By 1917, the number of guns per company was raised from 6 to 12. In addition, the new MG08/15 light machine gun (LMG) introduced in 1916, was issued to all infantry battalions. By the end of 1917, every infantry company on the Western front had received 3 LMG, and some with 6, the number intended per company. The units themselves provided personnel and training for these guns, thus no extra personnel were needed. At the beginning of 1918, each active division was expected to have 3 LMG per company, 12 HMG per Battalion, and 36 HMG in a marksman detachment, for a total of 108 LMG, and 144 heavy MG. The total number of machine guns in use by January 1918 was an incredible 32,000 HMG, and 37,000 LMG.

The Maxim MG08 heavy machine gun had a sight limit of 2,200 yards, muzzle velocity of 2821 fps, extreme range of 4,400 yards, and could fire 400-500 rounds per minute. The 250 round belt weighed 16 pounds and could be carried in single or double cans. Weight of entire gun assembled was 140 pounds with 7 pints of water. The ammunition used was ordinary ball (S.), armor piercing (S.m.K) for use against tanks, loophole plates and tracer (L.S.) at 1 to 10 rounds. Explosive bullets saw limited use against aircraft, but was not in widespread use, being almost entirely dropped by the end of the war as being ineffective as intended. Issuing of the MG08/15 LMG, a scaled down shoulder fired version of the MG08 HMG design, began in March 1917 as a counter measure to the .303 British Lewis LMG. With great determination it can be fired by one man, but through experience and use, it is somewhat impractical, however, it did fill a slot for a much needed lighter assault type machine gun without a total redesign and tooling process. It weighed 43 pounds with bipod and held 5 pints of water, and had all of the characteristics of the MG08 except in lighter form. Some internal parts are interchangeable with the MG08 for simplification of production. Although destined to take a side mounted spindle type magazine, it could also be used with all standard belts and boxes of the HMG.

Both the MG08/15 LMG and the MG08 HMG guns were of the usual high quality German craftsmanship, with all parts serial numbered to their respective guns, including all spare parts. Both weapons required great skill and care to keep them in functioning order, and it was not unusual, after extensive initial front line use, to have only 2 out of every 3 guns in operation at any one time. Barrel accuracy was about 10,000 round for ordinary ammo, even less for special ammo. It was not unusual for a gun to go through 50,000 rounds during a major engagement, a usage that does extreme damage to the fine-tuned parts within the gun. Spring of 1918 saw the introduction of a light 9mm submachinegun called the MP18 Bergmann, but only about 32,000 were produced, and they were issued out only to special assault teams, with their full potential never really studied or expanded upon before the war ended.
The Mp.18 “Bergmann”

The Mp.18 manufactured by Theodor Bergmann Waffenbau Abteilung was the first practical submachine gun used in combat. It was introduced into service in 1918 by the German Army during World War I as the primary weapon of the Stosstruppen, assault groups specialized in trench combat. Although Mp.18 production ended in the 1920s, its design formed the basis of most submachine guns manufactured between 1920 and 1960.

A Lasting Impression

The firepower of this new class of weapons made such an impression on the Allies that the Treaty of Versailles specifically banned further study and manufacture of such light automatic firearms by Germany. Needless to say, these weapons are today, very expensive. :-(

Well Built and Solid

A soundly engineered piece of equipment with near commercial grade fittings and finish, the MP18 was a heavy weapon, weighing over 5 kg (11.0 lb) when fully loaded. The receiver was very thick (~3 mm), compared with later World War II submachine guns with half that thickness or less, such as the Sten gun or Mp.40.

A Strange Decision

Though Schmeisser designed a conventional 20 round capacity “box” magazine for the weapon, the Testing Commission, for practical reasons, insisted that the MP18 be adapted to use the 32 round TM 08 Luger “snail” drum magazine that was widely used with the long barreled version of the P 08 pistol known as the Artillery model.

A Danger

Like many other open-bolt designs, the MP18 was prone to accidental discharge. If the buttstock of a loaded gun was given a hard knock while the bolt was fully forward, the gun could accidentally fire because of the bolt overcoming the action spring resistance and moving rearward enough to pick up a round, chamber it and fire. Soldiers liked to leave the bolt of their firearm in this closed or forward position, so dirt and debris would not enter the barrel and chamber. This ‘Bolt-closure’ practice acted as a dust cover for the weapon’s chamber, preventing a malfunction from occurring because of the presence of foreign debris, but making accidental dis-
The original MP18.1 was designed to use the snail drum magazine of the Luger Artillery model pistol. This rotary design type of magazine holds 32 rounds of 9 mm Parabellum, the user having to load the magazine with a proprietary loading tool. A special sleeve was required when the snail drum was used on the MP18 to stop the snail drum from being inserted too far in the magazine well.

After 1920, the MP18 was modified to use a straight magazine similar to those used in the later developed MP40 submachine gun. The MP18 could only fire in the fully automatic mode. Its successor, the MP28/2, received a modified mechanism with a selector for single shot or fully automatic fire.
Trench Knives

(Grabendolche)—The trench knife was perfect for the close confines of the trenches and the violent and close-quarter fighting that ensued there. Many varieties of trench knives were issued or bought by German Soldaten. Both the folding and sheathed styles are acceptable; however, members should take care not to buy inappropriate WWII trench knives.

All types of WWI German and Austrian trench knives, boot knives or fighting knives are allowed.

The Grabendolche is not really a necessary item and it is recommended that you acquire the other items in your kit first.
Trench Weapons

**Trench Clubs (Grabenkeule)** Both sides also constructed clubs and maces for the brutal hand-to-hand fighting in the trenches. Almost anything could be used—sometimes nothing more than a board with nails or spikes hammered through it.

For reenacting, clubs must be made of rubber or foam. Often one can make a good club from a child’s toy club. Spikes and nails can be quite effectively modeled onto the club out of rubber or foam. If done well, this can produce a scary and realistic appearance! (French reenactors have been known to run!)

(Graben Nagel)—Among the trench-made weapons was the Graben Nagel. It was made from the reinforcing rods used in bunker construction (probably Re-bar or old pig-tails). The rods were bent, flattened and sharpened into the shape seen below. This was a cheap, effective and easy to come by weapon for the trenches.

These may be reproduced from rubber or other soft, non-lethal material for the trenches.
Grenade Simulators

(Granaten)—A unique part of WWI reenacting is the use of grenade simulators—yes, they explode. No, they won’t kill you. These “sims” as some call them, have a small bursting charge (smaller than a firecracker) and are filled with baking soda for weight and a visual when they go off (flour is not used at it is a safety hazard). These consist of either a stick or egg grenade with a charge of no more than 30 grains of black powder in them. The unit has plans and directions for the construction of these simulators.

When effectively used, these simulators can provide quite a realistic sensation, but just like the real thing, they can also be quite dangerous. The unit requires new members to attend a short training class on their use.

Shown in this area are some details of real grenades and also some original directions on how to throw them.
German Hand Grenades in the Great War

by Randall Chapmann
3./J.R. 63

Grenades first came into use around the 15th century and the inventor cannot be named—the first grenades were simply hollow iron balls filled with gunpowder and ignited by a slow burning wick.

Not Much Change Over the Centuries

At the close of the 19th century, after on and off use spanning hundreds of years, the hand grenade had yet to achieve any lasting significance as a tool of warfare. Despite continued interest and experimentation, and although effective enough at times, its value to an army’s complement of weaponry was comparatively low. It remained a relatively obscure weapon.

On the eve of the Great War, grenade technology was at a primitive level. The classic cast iron sphere was little changed from its inception. It had been observed that during the 1904 Russo-Japanese War, there was massive and effective use of grenades in the defense of entrenched camps. Noted by both the French and Germans, hand grenades were reintroduced in quantity, to the armaments inventory of these nation’s infantry’s at the outbreak of WWI.

The Start of the War

As with most things at the start of the war in August 1914, the Germans were ahead of the pack in terms of grenade development. Even as war began, the Germans had 70,000 hand grenades in readiness, along with a further 106,000 rifle grenades.

Still, grenades were of little tactical value in open combat involving movement of massed infantry. However, by the end of 1914, the face of the battlefield had changed to siege warfare from the trenches. As this trench war progressed, distances between opposing forces became ever smaller, and the ability to attack your opponent without the requirement of direct line of site was a great advantage. Hand grenades became an indispensable weapon and development proceeded at a furious pace.

Early designs ranged from simple ball grenades such as the Kugel to complex types such as the Austrian Universal. Stick grenade types became increasingly popular and appeared in a bewildering variety of styles.
German Disc Hand Grenade (Percussion)

“Diskushandgrenate” also referred to as an “Oyster” or “Turtle” Grenade

The Diskushandgrenate was a percussion grenade, meaning it was not ignited by a time fuse, but rather with its impact with a target. However, like most percussion grenades, it was highly erratic in performance. If a percussion grenade landed in soft mud or water, they frequently failed to detonate. Accidents were frequent and the troops on both sides gradually lost confidence in them. To be a “grenadier” in the early years of the war was like playing Russian roulette on a daily basis.

Discushandgranate 1913

- Weight: 360g (15 oz.) Complete
- Charge: 2¾ oz. Explosive
- Diameter of body 80mm, total width 100mm.

Method of ignition

When the safety pin was pulled, a small rod fell out of the body (during flight) which held the 4 primers away from the 4 striker pins. Opposite of the side on which the grenade landed, one or two primers were driven onto the striker pins, igniting it.

Safety Arrangements

The detonator had to be inserted before use.

Body

The body is constructed of 2 cast iron halves, riveted together, each segmented to produce shrapnel on detonation. The fuze was made of aluminum. Because of the shrapnel generated from the detonation, it was considered unsafe to throw this grenade only from behind sufficient cover.
Discushandgranate 1915

Weight: 420g (13¼ oz.) Complete
Charge: 4 oz. Explosive (combined)

Body
Two thin steel sheet metal shells, convex on the outside with the edges either turned over to seal the halves together. It contained two circular bags of explosives, each containing 2 ounces.

Method of ignition
Same function as the Discushandgranate 1913.
German Spherical Hand Grenade
“Kugelhandgrenate”

Body

The Kugelhandgranate is made of cast iron with large external segments. It held an explosive charge of 70% black powder reinforced with baryta nitrate and potassium perchlorate. Fragments could pierce two centimeters of pine board at ten meters. The 1 kilo (2.2lbs) “Kugel” could be thrown about 15 meters, or using a catapult, out to 300m. It was transported loaded and closed with a zinc alloy plug.

Spherical approximately 3 inches in diameter, made of cast iron about 8mm (1/3 inch) thick, filled with black powder or other explosive which does not require a detonator. The body is coated with varnish inside and out.

The “Kugel” was modified over time, but remained too heavy for the average soldier, who could only throw it about 15 meters.

Method of ignition

Combination of friction tube, lighter and fuze. The friction tube is fired by pulling out the wire in the direction of the axis of the tube. Time of burning is seven seconds. A similar lighter, which burns for 5 seconds, was also provided.

Variations

Kugelhandgranate Model 1913 Aa

This Ältere Art (“Old Model”) is easily identified by the large frag segments.

Recovered grenades show minor variations to the pattern. The friction delay fuze is initiated by pulling the twisted priming wire. The 1913 Aa presented difficulties to cast properly, due to the deep and angular grooves.
Kugelhandgranate Model 1913 Na

As demand rapidly grew, the grenade body was simplified for faster production, resulting in the Model 1913 Neuere Art (“New Model”). This transitional type was produced in limited quantities. Kugels are typically painted black, but original examples in light green paint have been found.

Above: Two common variations of the Kugel 1913 Na.

Kugelhandgranate Model 1915 Na

This design, further simplified, was quickly adopted as the successor to the Model 1913 and was produced in vast numbers. With this grenade a new fuze, the Model 1915 igniter, was developed. It had a cast and formed zinc alloy body with a twisted wire pull, formed into a small loop to be pulled with the index finger, thus eliminating the need for the leather wrist lanyard.

Bottom and side views of the Kugel 1915 Na.
An interesting accessory for the Kugelhandgranate is this special belt carrier device. The grenade was held inside the metal frame using a leather strap. The fuze pull was attached to the frame via a chain with a hook. The whole thing was removed from the belt, the leather strap unhooked and the grenade pulled sharply from the carrier to initiate the delay train. The carrier would be then be discarded. While this does make carrying the Kugel easier, it probably created more problems than it solved as two hands just doesn’t seem enough to effectively manipulate it. Evidently it wasn’t used in great numbers.
Fuzes

The Kugel were issued with a succession of different fuzes. Two are the Model 1913 Bronze friction igniter and the Mle.1915 Zinc alloy friction igniter.

(See Eierhandgranate Model 1917)
Stick Grenades

The German stick grenade is, of course, THE “German grenade” as made notorious by legions of Hollywood movies. By 1915, the Germans introduced their first regulation stick grenades. With the now familiar metal can of explosive attached to a stick handle, the *Stielhandgranate* were equipped with delay fuze activated by a pull cord lanyard. By 1916 German stick grenade production alone was eight million *per month!* At least 20 different stick grenade designs and variations were fielded by Germany from 1914 to 1917.

It was so widely employed mainly because it was simple to manufacture and effective. There were several models, the first appearing in 1915.

- 1915 : time fuse with round end handle
- 1915 : percussion with lever
- 1916 : percussion “Wilhelm's Handgrenade A.Z.”
- 1916 : percussion “Friedrich”
- 1916 : time fuse with automatic firing
- 1916 : time fuse with handle end cap
- 1917 : time fuse with handle end cap
1915 Stiehlhandgranate Pattern I: time fuse with round end handle

This grenade consisted of a crimped sheet can (105 to 120 mm long — 7.2 mm diameter) that was fixed by a hook to the soldier's belt, and ignited by a string, which when pulled, actuated a traction detonator, through the 24 to 26 cm long wooden handle. This mechanism gave a delay of 5 or 7 seconds.
German Cylindrical Grenade with Friction Tube (Regulation type)

“1915 Stiehlhandgranate” – Pattern II
Weight: 1 lb. 13 oz. Complete
The early stick grenades were not made to strict construction guidelines except for their weight and fuse length. In order to allow for consistent throwing by the soldiers the weight of the M.15 was fixed at 820 grams and had a fuse length 5½ seconds. They were fired by yanking on a cord loop, which came out the bottom of the handle, this being secured for transport with a paper band around the lower part of the handle. Typically the canister’s lid was secured by clamps and the grenades had a belt hook attached to the canister.

Body
The body consists of a tin cylinder 4” long by 2 7/8” inches in diameter which contains the cartridge explosive. The cylinder is closed at the top with a lid held in place by four clips, at the bottom there is a screw threaded hole to take the handle. The bottom of the cartridge is fitted with a paper tube for the detonator. On the side of the cylinder body is attached a hook by means of which the grenade can be hung from the belt.

The cylinder was labeled “Vor Gebrauch Sprengkapsel Einsetzen” which translates to “Before use, insert detonator”.

Handle
Wooden, 9 7/8” inches in length, with a screw threaded metal top which inserts into the cylinder body. The handle is bored out axially to take the igniter and pull string.

Method of Ignition
Consists of a friction lighter and safety fuze contained in a cardboard tube. The igniter is actuated by pulling a string loop at the end of the handle. This loop is attached to the wire pull of the friction tube, and is fixed to the handle by means of a paper band. The mouth of the detonator fits into a brass tube at the top of the igniter and is fired by the flash from the dab of phosphorous at the end of the safety fuze. Time of burning – 5½ or 7 seconds as marked on the handle.

The grenade and detonator are kept separate during transport. The draw string is attached to the handle by a paper band, which is torn loose to release the string for pulling.
German Cylindrical Grenade with Friction Tube (percussion)

“1915 Stiehlhandgranate” – Lever type
The massive Model 1915 lever style impact grenade was heavy by design. The fuze mechanism is similar to the one found in the Lanz mortar. It is a “always” type which functions no matter what the orientation at impact, but was most sensitive when the grenade dropped head first. The massive sheet steel can was supposed to help insure that result, but it wasn’t very successful. This lead to a design modification using a heavier cast iron Kugel body instead, but evidently this wasn’t much of an improvement and the grenade type was withdrawn from service.

Impact Fuze Function
The large lever pivots on an axial pin. As a spring pushes the bottom up, the front claw is pushed down on a smaller lever arm. That small lever, also mounted on an axial pin rotates in turn and pulls a safety bolt out, which unlocks the internal fuze mechanism. Impact forces the pellet and primer together, overcoming a creep spring. The primer fires, igniting the detonator which explodes the grenade.
1916 Stiehlhandgrenate (Percussion)
“Wilhelm A.Z.” with End Cap

This was a very elaborate grenade; very safe to use, it is recognizable by its nearly all-metal handle. The striker is held cocked by an “S” shaped lever keyed by a ball and locked by a long pin. The ball is held in place by a shutter, which is also locked by a pin. Upon throwing, the pin is detached by a counterweight and frees the shutter, which propelled by a small flat spring, falls away.

Due to its complicated design, this grenade was not manufactured in great quantity.
1916 Stiehlhandgrenate “Friedrich” (Perussion) with End Cap
1916 Stiehlhandgrenate (Automatic Fuze) with End Cap

Nearly identical to the 1915 pattern, but the handle came equipped with a metal screw cap which made the grenade far more resistant to humidity and protected the firing string.
German Cylindrical Grenade with Friction Tube (Regulation type) “1917 Stielhandgranate”

This model was the pinnacle of German stick-grenade design during the Great War. As explosives improved and became stronger, less could be used while still attaining the desired effects. Therefore, the M.17 had a smaller, smooth head, and its manufacture was built to a common design, which did not vary from manufacturer to manufacturer. The M.17 had a screw-on cap, which contained a porcelain ball attached to the firing cord. This cord made pulling the friction igniter much easier. The end cap was not removed until right before use.
M.17 Eierhandgranate

The M.17 Eierhandgranate was designed in response to the weight of the Kugelgranaten and the cumbersome size of the M.15 Stielhandgranaten. It was a small, egg shaped, smooth cast-iron grenade, painted black.

The weight and size of the “Eier” allowed the average soldier to easily reach distances of 40 to 50 meters and to carry 15 at a time without difficulty. Also, at 50 meters, the grenadier was practically immune to shrapnel from his own grenades.

Weight: 11 ounces (patterns varied slightly)

Body

Cast iron egg shaped about 60 mm (2.3 inches) long by 45 mm (1.77 inches) in diameter, with a screwed hole at one end to insert the igniter. It is filled with a special powder, which does not require a detonator.

The igniter is a lead alloy tube which screws into the body and contains a fuse; on one end is fitted a metal cap, containing the friction lighter; which is operated by pulling a wire loop.

Two igniters were available: No.1 with an eight second fuse, designed for situations where the grenade was launched by a mechanical means, and No. 2 fuse with a 5 second burn for use when thrown by hand.

Safety Arrangements

The grenades were equipped with a lead plug that screwed into the grenade in place of the igniter during transport.
First pattern of Eierhandgranate with completely smooth body. In practical use, these were found tricky to hang on to.
Left & above: Second pattern egg grenade with a raised serrated band in the middle to alleviate the handling problems associated with the smooth bodied Eierhandgrenaten.

Right: Second pattern egg grenade with a raised serrated band and transit plug.
Interesting plate apparently used by grenadiers to quickly pull the ignitors on the Eierhandgrenaten. Shown at left is a camo painted German version, at right shows a similar version being utilized by an Austrian Soldat.

References:

- Bombs and Hand grenades by Captain Bertram Smith New York, E.P. Dutton & Co. [c1918]
- from Les Grenade Allemandes de la Grande Guerre, Patrice Delhomme
- John Sheehan ‘From rifles ... to grenades 1914-1918’, Guns Magazine, June 2008
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Rifle Grenade Model 1917

M.1917 Wurfgranate
The Wurf grenade—also called “jam pot bomb” by the Allies, was launched by a 1lb. cylindrical cup launcher which fitted on the end of the rifle barrel. The maximum range was approximately 210 yards. Ordinary ball ammunition was fired, the round passing through a channel in the middle of the grenade and igniting the fuse, which propelled the grenade to its target. The discharger cup had a total length of about 11”, and the cylindrical head was about 5.1” long with a diameter of 2.3”.

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