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UNITED STATES RIFLE, CALIBER .30, MODEL OF 1917.

COMPONENT PARTS OF RIFLE.

(Eighty-six in number of which seventy-seven are not duplicates.)

Barrel: Barrel. Spline. Bolt: Bolt. Extractor collar. Bolt stop: Bolt stop. Bolt stop screw. Bolt stop spring. Bolt stop spring rest. Butt plate: Butt plate. Butt plate cap. Butt plate pin. Butt plate screw, large. Butt plate screw, small. Butt plate spring. Butt plate spring screw. Butt swivel: Butt swivel. Butt swivel screw. Butt swivel plate. Butt swivel plate screws (2). Ejector. Extractor. Firing pin: Striker. Cocking piece. Floor plate. Floor plate catch. Floor plate pin. Floor plate spring. Follower. Front sight: Front sight. Front sight carrier. Front sight carrier pin.

Guard. Guard screw bushing, front. Guard screw bushing, rear. Guard screw. front. Guard screw, rear. Hand guard: Hand guard, front. Hand guard, rear. Hand guard liner, front. Hand guard liner, middle. Hand guard liner, rear. Hand guard rivets, (6). Hand guard ring. Lower band. Lower band screw. Lower band pin. Lower band swivel. Magazine. Magazine spring. Main spring. Rear sight: Base spring. Base spring screw Joint bolt. Joint bolt nut. Leaf. Slide. Slide catch. Slide catch spring. Slide catch pin. Slide stop screw. Receiver. Safety lock: Safety lock. Safety lock holder. Safety lock holder screw. Safety lock plunger. Safety lock spring.

- Sear. Sear pin. Sear spring. Sleeve. Stacking swivel. Stacking swivel screw. Stock.
- Stock bolt. Stock bolt nut. Stock pin. Trigger. Trigger pin. Upper band. Upper band screw.

APPENDAGES.

Oiler and thong case: Thong case body. Thong case partition. Oiler collar. Oiler cap. Oiler cap washer. Thong case cap. Thong case pad. Thong: Thong brush. Thong cord. Thong tip. Thong weight.

ACCESSORIES.

1916: Sleeve.	
Collar. Second section.	
Knob. Third section.	
Rod. Cleaning rod case.	
Sleeve. Follower depressor.	
Cleaning rod, model of 1916: Screw-driver:	
Brush section. Screw-driver blade, large.	
Handle section. Screw-driver blade, small.	
Knob. Screw-driver pin.	
Collar. Screw-driver rivet.	

COMPONENT PARTS OF BAYONET, MODEL OF 1917.

(Ten in number.)

Bayonet blade.	Bayonet grip, right.
Bayonet catch.	Bayonet grip, left.
Bayonet catch spring.	Bayonet screws (2).
Bayonet catch thumbpiece.	Bayonet screw nuts (2).

The rifle has a breech mechanism of the bolt type, the bolt being locked by a turning movement, which causes lugs on the bolt to engage in recesses just in rear of the chamber. There is a camming action of the locking lugs to seat cartridges firmly, which continues throughout the locking action. To preclude the possibility of the bolt's unlocking under powder pressure, a safety stud is mounted on the sear and rises, as the trigger is pulled, to lock the bolt against turning. This serves also to preclude pulling of the trigger unless the bolt is fully locked.

The magazine is directly beneath the bolt and is loaded from the top from a clip of five cartridges while the bolt is retracted. It contains a spring-actuated follower, above which the cartridges arrange themselves in laterally staggered relation.

This follower feeds the top cartridge up into the path of the bolt when the latter is retracted, a ramp serving to guide the nose of the bullet upward and into the chamber as the cartridge is forced forward on the succeeding forward movement of the bolt.

The extractor is of the hook type, swiveled on the bolt, and engages the groove of the cartridge as this moves upward from the magazine. Primary extraction is provided by an extracting cam, operated by the turning of the bolt in unlocking, and serving to start the bolt to the rear after it is unlocked.

The ejector is of the spring-actuated type and operates through a slot in one of the locking lugs at the limit of rearward movement of the bolt. The ejector spring is integral with the ejector.

The firing pin has no cocking knob and can not be cocked except by actuation of the bolt. It is half cocked by the unlocking movement of the bolt, a cam and half-cock notch being provided on the rear end of the bolt to engage a lug on the cocking piece and perform this function. The sear notch of the cocking piece engages the sear nose in the closing movement of the bolt, so that the piece is cocked by the act of closing the bolt. The locking of the bolt moves the half-cocking cam out of the path of the lug on the cocking piece. This arrangement precludes the closing of the bolt upon a cartridge with the point of the striker protruding through the end of the bolt.

There is no magazine cut-off. The follower rises and locks the bolt open when the magazine is empty, and to prevent this, so that the rifle may be used as a single loader or in simulated fire drill, an accessory, called the follower depressor, is provided.

The safety lock consists of an eccentric detent which engages a notch in the cocking-piece lug and lifts the sear notch off the sear nose, and a sliding plunger, which simultaneously enters a hole in the bolt handle and locks the bolt closed. These parts are operated



by a thumb piece, mounted at the right, just in rear of the bolt handle, in position for convenient actuation by the right thumb.

The bolt stop engages one of the locking lugs. It is spring held, and may be retracted to permit withdrawal of the bolt at the rear. The firing pin and sleeve can be removed from the bolt and completely dismounted without the use of tools.

The front sight is protected by lateral wing guards, and may be adjusted laterally during assembly. Height adjustment is secured by the interchange of sights of different heights.

The rear sight is protected by lateral wing guards. The battle sight is of the peep type and, being formed at the lower end of the leaf, rises to position as the leaf is laid. The leaf carries a peep sight, on a slide which moves vertically, and hence makes no correction for drift. There is no windage adjustment.

The sling, stacking swivel, and accessories are of familiar types and need no preliminary description.

The ammunition is the U. S. Caliber .30 Rifle Cartridge, Model of 1906, five cartridges in a clip. These are the same cartridge and clip as are used in the U. S. Rifle, Caliber .30, Model of 1903.

DESCRIPTION AND NOMENCLATURE OF RIFLE PARTS.

The rifle is shown in plan in Fig. 1 and in elevation in Fig. 2.

The BARREL A, with the *spline seat* B, is shown in Fig. 3. It is 26.05 inches in length, and the rifling consists of 5 grooves approximately 0.005 inch deep. The lands and grooves are of equal width. The twist is left-hand and uniform, 1 turn in 10 inches.

The muzzle is rounded to protect the rifling. The tenon C at the rear is square-threaded for the purpose of securing the receiver to the barrel. A *shoulder* D is provided to form a seating for the receiver.

The FRONT SIGHT CARRIER is shown in side elevation in Fig. 4, and front elevation in Fig. 5. It is mounted near the front end of the barrel. It includes in one piece, a *collar* A, a *fixed base* B provided with a transverse dovetailed way C, to receive the sight blade hereafter described, and two *sight guards* DD which project upward above the front sight and protect the same from injury. The upper portions of the guards DD of the front sight carrier are knurled or serrated, as shown at E, to prevent any reflection of light from this surface, such as would interfere with aiming.

The front sight carrier is held in position by means of the SPLINE F, illustrated in detail in Figs. 6 and 7, which are top and side views. This spline is seated and fits closely in the spline seat in the top of the barrel (see B, Fig. 3), and is thus held against movement in any direction. It fits in a *keyway* G in the collar A of the front sight carrier and is locked to said carrier by the FRONT SIGHT CARRIER PIN H (see Fig. 8), which passes through a *transverse hole J* in the front sight carrier and engages a *notch* K in the top of the spline F.





The removal of the front sight carrier should not be attempted, except at armories properly equipped for this work.

The FRONT SIGHT is shown in side elevation in Fig. 9 and front elevation in Fig. 10. It has a base A; base lug B; blade C, and lock seat D. The lug B fits closely in the transverse dovetailed way of the sight carrier and is locked, after adjustment, by upsetting part of the metal of the base into lock seat D with a punch. Vertical adjustment is secured by substitution of different front sights. Eleven sizes are used, varying by 0.015 inch increments between 0.985 inch and 1.135 inch, the lowest size being marked -.015, the next 0, the next .015, the next .03, and so on to .135.

At the top of the barrel and at the rear of the front sight carrier is stamped a letter which indicates the place of manufacture, the Ordnance escutcheon, and numerals indicating the month and year of manufacture.

The RECEIVER is shown in Figs. 11, 12, and 13, which are, respectively, a top view, a right side view, and a front end view. The receiver is made in one piece and comprises the following elements: The well A, through which the bolt slides; the magazine opening B; the channel C, for the top locking lug of the bolt; the clip slots D, which retain a clip in position during the loading operation; the cocking piece groove E, in which the lug of the cocking piece is guided; the sear nose slot F, through which the sear nose works; the safety lock slot G; the extracting cam H; the sear pin hole I; the gas-escape hole J; the recoil lug K, in which is the hole for the front guard screw; the recesses LL, for the bolt-locking lugs; the locking cams MM; the locking shoulders NN, which are slightly inclined so as to exert a powerful closing action on the bolt when loading; the safety shoulder O, which engages the bolt handle in the closed position; the safetu-lock bearing P; the rear sight base Q, provided with the rear sight guards RR; rear sight joint holes S; bolt stop screw hole T; thumb recess U to give clearance for the thumb when forcing cartridges from a clip into the magazine; rear tang V, which has a hole to receive the rear-guard screw; cartridge ramp W; threaded hood X; and safety-lock holder screw hole Y. There are also two slots, not visible in the The first, known as the *bolt-stop* opening, is through the left cuts. side of the well A, and receives the bolt stop and ejector. The second, known as the safety-stud slot, is in the bottom of the well A and allows the safety stud on the sear to interlock with the bolt. It can be seen in Fig. 146. As shown, the receiver is open at the top to permit the insertion of cartridges and at the right to permit ejection.

The threaded hood X is screwed on to the end of the barrel, and firmly breeched against the shoulder formed on the barrel (see D, Fig. 3). The removal of receivers from barrels should be attempted only in armories equipped with proper appliances for this work. On the upper surface of the receiver, at the front end, is stamped "U. S.," "Model of 1917," together with the name of the maker and the serial number of the rifle.

The BOLT is shown in Figs. 14, 15, and 16, which are, respectively, plan, rear, and front elevations. It comprises the following elements: The handle A; the locking lugs BB, which sustain the shock of discharge, the upper lug being slotted to allow the passage of the point of the ejector; a safety lug C, formed as a part of the handle, and capable of sustaining the recoil of the bolt upon failure of the locking lugs; the extractor collar groove D; extracting cam E; safety lock plunger recess F; firing-pin hole G; half-cocking cam H, which half cocks the piece by the unlocking (turning) movement of the bolt; the halfcock notch I; the extractor-tongue groove J; gas-escape holes KK, also shown in Fig. 147; rim M; clearance N, which permits the safety stud on the sear to rise as the sear nose is depressed by the cocking piece, during the opening movement of the bolt; and interlock slot O which is so placed as to receive the safety stud on the sear only when the bolt is fully locked.



The SLEEVE is shown in Figs. 17, 18, and 19, which are respectively rear end elevation, right side elevation and bottom view. It comprises the *barrel* A, threaded for the purpose of securing the sleeve to the bolt; a central guide or way B, through which the striker works, formed with flat sides to engage flats on the striker and prevent turning thereof; the *counter bore* C, at the rear, in which the cocking piece works; the *cocking piece slot* D, to receive and guide the lug on the cocking piece, and the *sight clearance* E, which receives the battle sight, should the leaf accidentally be struck back.

The bolt is bored out from the rear to receive the striker, and is internally threaded at the rear end of the bore to receive the sleeve. The sleeve is screwed into the rear end of the bolt, and serves to guide the striker and cocking piece, which are assembled to form the firing pin. The sleeve also receives the thrust of the main spring which surrounds the striker between a collar thereon and the sleeve. The sleeve partakes of all the longitudinal movements of the bolt, but swivels in the bolt on its threaded connection when the bolt is turned to lock and unlock it.



FIG.18







The FIRING PIN consists of a cocking piece and striker. The COCKING PIECE is shown in Figs. 20 and 21, which are respectively right side and front end elevations. It is made in one piece and comprises a barrel A; a lug B; cocking cam C; sear notch D; safety lock notch E; and dismounting hook F. The cocking piece has a longitudinal hole G provided with lugs H, which engage or release lugs on the striker by a quarter-turn movement of the cocking piece on the striker. A shoulder I facilitates the positioning of the striker in the cocking piece, preparatory to locking the two together. The STRIKER is shown in Figs. 22, 23, and 24, which are respectively rear end, side, and front end views. It comprises a point J; collar K; gas vents L; flats M; and locking lugs N. The rear end of the striker will enter the hole G in the cocking piece until the end lug N strikes shoulder I. The two may then be locked together by a quarterturn movement, and will be retained in locked position by the sleeve, since the sleeve engages both the flats on the striker and the lug on the cocking piece.

The MAIN SPRING is shown in Fig. 25. It surrounds the striker between the sleeve and collar K on the striker. It may be sufficiently compressed to allow the sleeve to free the cocking piece, so that this can be turned and released from the striker.

The EXTRACTOR is shown in Figs. 26, 27, and 28, which are respectively inside, edge, and front end views. It comprises the *hook* A, by which the cartridge case is extracted from the chamber; the



FIG.27





tongue B, which rides in its groove in the front end of the bolt; the lug C, which has an undercut slot to receive the ears on the extractor collar; the gas escape hole D, and the back rest E.

The EXTRACTOR COLLAR is shown in Figs. 29 and 30, which are respectively end and side views. It comprises the *collar* A, and *ears* BB. It is sprung into the groove on the bolt, and should not be removed except at properly equipped armories.

The extractor may be readily mounted on, and dismounted from, the ears on the collar, when these are turned to aline with the gasescape holes on the bolt. (See K, Fig. 14.) The extractor tongue groove on the bolt does not extend clear around the bolt, and is absent in this position, so that the extractor may be drawn forward to release its undercut lug from the ears on the collar.

The BOLT STOP is shown in Figs. 31, 32, 33, 34, and 35, which are, respectively, right side, plan, front end, left side, and rear end views. The stop comprises the stop lug A, which projects into the well of the receiver, and arrests the slotted lug on the bolt at the limit of the rearward movement of the bolt; ejector slot B; spring seat C; thumb piece D; pivot lugs E and bolt stop screw hole F. The EJECTOR (Fig. 36), comprising the point G, spring H and pivot hole I, is mounted in the ejector slot B, the ejector and bolt stop being held by the BOLT STOP SCREW (Fig. 37) which serves as a pivot for both, and is screwed into the bolt stop screw hole in the receiver. (See T, Fig. 11.) The BOLT STOP SPRING shown in side view in Fig. 38 and in plan in Fig. 39 has a bifurcated lug L which enters into positive engagement with the bolt stop in the spring seat C thereof. The opposite, or free end M bears in the spring seat N of the BOLT STOP SPRING REST shown in Figs. 40 and 41. The stud O of this spring rest is seated in a hole in the side of the receiver.

The bolt stop, ejector and spring thus form a single assembled unit, the point G of the ejector being in advance of the stop lug A and being protruded laterally by its own spring H, which bears at its end on the bolt stop spring. When the bolt is fully drawn back, with the locking lug against the bolt stop, the point G, extending through the slot in the locking lug of the bolt, projects beyond the front end of the bolt to perform its ejecting function.

To release the bolt, so that it may be drawn out to the rear through the well, the thumb piece D is pulled to the left, retracting the lug A. Since the lug A bridges the ejector slot B, it engages and retracts the ejector at the time of its own retraction.

The SAFETY LOCK is shown in left-side view in Fig. 42 and in rear view in Fig. 43. It includes the following elements: *Thumb piece* A; *journals* B; *locking cam* C, and *plunger actuating cam* D. The safety lock is swiveled in a bearing formed in the receiver (see P, Fig. 12), and the cam C works through a slot in the lug slot of the receiver (see









FIG.38



FIG.39



FIG. 40



FIG. 41



FIG. 42







E



F1G.44

FIG. 45

FIG. 46





FIG. 49



FIG.48

G, Fig. 11), to engage the safety-lock notch in the cocking-piece lug (see E, Fig. 20), retract the cocking piece sufficiently to lift the sear notch off the sear nose, and hold it, so that the piece can not be discharged. The retraction of the cocking piece frees the sear nose, so that it will certainly return to normal or raised position, after any manipulation of the trigger while the safety lock is set "safe."

The cam D of the safety lock actuates the SAFETY-LOCK PLUNGER shown in rear view in Fig. 44 and side elevation in Fig. 45. This slides in a guide formed in the receiver and includes a *detent head* E and a *plunger* F. The SAFETY-LOCK SPRING, Fig. 46, surrounds the plunger F and urges the detent head E against the plunger actuating cam D. The cam D thus actuates the plunger F, and together with the detent head E, serves as an impositive latch or detent for the safety lock. The "safe" position of the thumb piece A is to the rear, in which position cam C performs its locking function, and plunger F is protruded into a hole in the bolt handle, to lock the bolt closed (see F, Fig. 15). The "ready" position is forward, the cam C being thus lowered to clear the cocking-piece lug, and the plunger F being retracted by the safety-lock spring.

The safety lock should never be moved to "ready" with the finger on the trigger. The thumb piece should never be left in a vertical position, as this does not render the rifle safe, and may cause injury to the safety lock if the trigger is pulled.

The SAFETY-LOCK HOLDER is shown in plan in Fig. 47, and rightside elevation in Fig. 48. This has a *plug* G, which enters a hole in the receiver at the rear of and at right angles to the bearing for journals B B. The safety-lock holder is held in place by the SAFETY-LOCK HOLDER SCREW, Fig. 49. After removing the receiver and barrel from the stock, the safety lock may be dismounted. The safety-lock holder is removed, and the thumb piece of the safety lock is turned to a vertical downward position. This frees the safety lock from retention by the detent head E. The safety lock is then withdrawn and the plunger and spring removed.

The GUARD is shown in Figs. 50 and 51, which are, respectively, a plan and elevation. It comprises in one piece the following parts: the bow A; front tang B; rear tang C; floor-plate catch-pin hole D; front guard-screw hole E; rear guard-screw hole F; trigger slot G; floor-plate-lug slot H; catch-spring seat I; floor-plate catch slot K; lightening cut L; and floor-plate opening M.

The MAGAZINE is shown in Figs. 52 and 53, which are, respectively, a plan and side elevation. It is shown as constructed of two side plates A, a front end plate B, and rear end plate C riveted together. This construction was used by all manufacturers in early models, but the later practice by some is to connect these parts by spot welding. The end plates B and C have top lugs D, which enter the magazine opening of the receiver, and the side plates have extensions E, which enter the floor-plate opening of the guard (see M of Fig. 50) The magazine is clamped between the receiver and guard when assembled, and is held in alinement by the lugs and extensions above mentioned.

The GUARD SCREWS, front and rear, are shown in Figs. 54 and 55, respectively. They connect the front tang of the guard to the recoil lug of the receiver, and the rear tang of the guard to the rear tang of the receiver. GUARD-SCREW BUSHINGS, front and rear, are shown in Figs. 56 and 57, respectively, and serve as distance pieces between the guard and the receiver.

The FLOOR PLATE is shown in Figs. 58 and 59, which are, respectively, a plan and longitudinal section. The floor plate includes the *tenon* A, which fits into a groove at the front end of the magazine-opening in the guard, and with the assistance of the floor-plate catch, retains the floor plate securely in its place in the bottom of the magazine; the *lug* B, which is slotted to receive the floor-plate catch, and has a *tenon* C at its front end, which engages the guard; the *cavity* D, through which the catch may be released by pressing it with the nose of a bullet; the *magazine-spring recess* E; the *magazine-spring* seat F, and the *magazine-spring stop* G.

The FLOOR-PLATE CATCH, Figs. 60 and 61, hinges on the FLOOR-PLATE PIN, Fig. 62, and is held by the FLOOR-PLATE SPRING, Fig. 63. This pin is mounted in a hole formed for it in the guard (see D, Fig. 51), and the nose of the catch enters the slot in the floor-plate lug (see B, Fig. 58), so that the floor plate is held forward, with its tenons in engagement with the guard.

The MAGAZINE SPRING is shown in perspective in Fig. 64. The spring is of W, or zigzag shape, with small loops at the bends. One end is narrowed to fit undercuts in the follower, and the other and wider end fits undercuts in the spring seat of the floor plate.

The FOLLOWER is shown in plan in Fig. 65 and in side elevation in Fig. 66. It has the *rib* Λ , which serves to locate the cartridges in the magazine and guides the last cartridge into the chamber; the *front* stop B and the *rear stop* C, for the magazine spring; and the *lugs* D, in which are *undercuts* to receive the magazine spring.

The SEAR is shown in Figs. 67, 68, and 69, which are, respectively, plan, right side, and front end elevations. The sear comprises the sear nose A, sear-pin hole B, trigger slot C, trigger-pin hole D, and safety stud E, which enters into interlocking relation with the bolt to ensure locking of the bolt at the moment of firing. One manufacturer forges the safety stud integrally with the sear. Others form it separately and rivet it in place.

The SEAR SPRING is shown in Fig. 70. It surrounds the safety stud E of the sear, and bears at its upper end in a countersink drilled around the safety stud hole in the receiver.







FIG.54



FIG.55





FIG.57

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The SEAR PIN is shown in Fig. 71, and hinges the scar to the receiver. The sear pin should not be needlessly removed, as it is difficult to replace.

The TRIGGER, shown in right side view in Fig. 72 and in front view in Fig. 73, extends through the trigger slot in the sear and is pinned to the sear by the TRIGGER PIN, shown in Fig. 74. The trigger consists of a serrated *finger piece* A, *bearing* B, *heel* C, *trigger-pin hole* D, and *stop* E. The bearing and heel operate to give successive cam actions on a bearing formed on the receiver, so that the trigger action is divided into well-defined slack and creep.

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