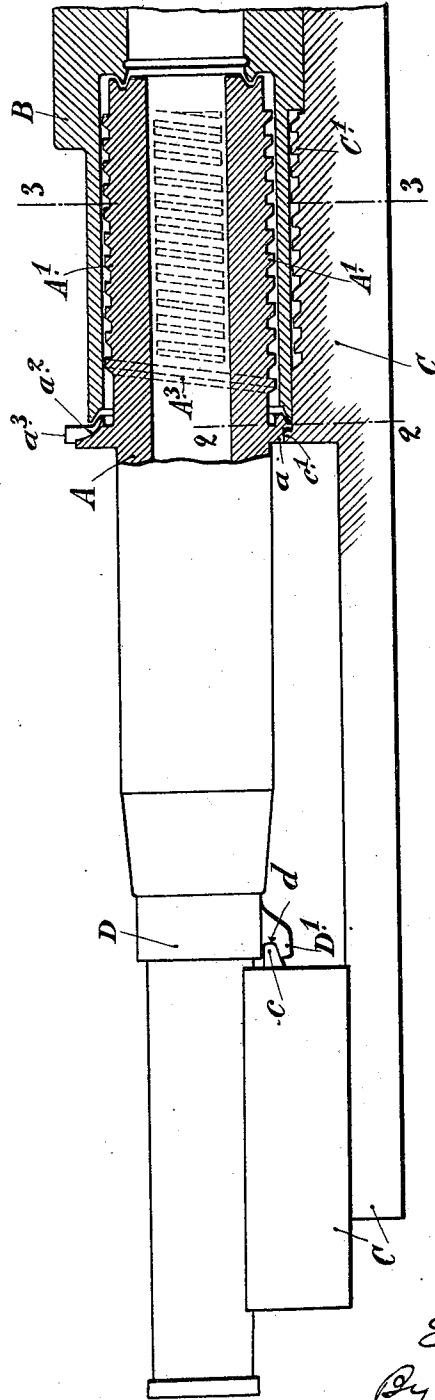


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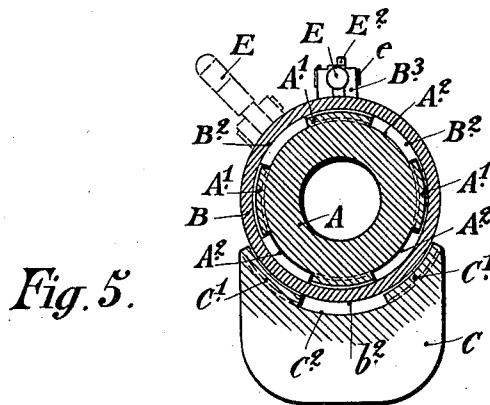
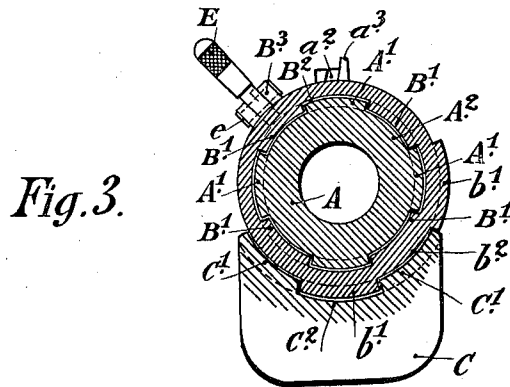
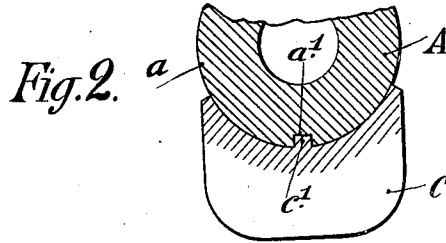
Fig. 1.



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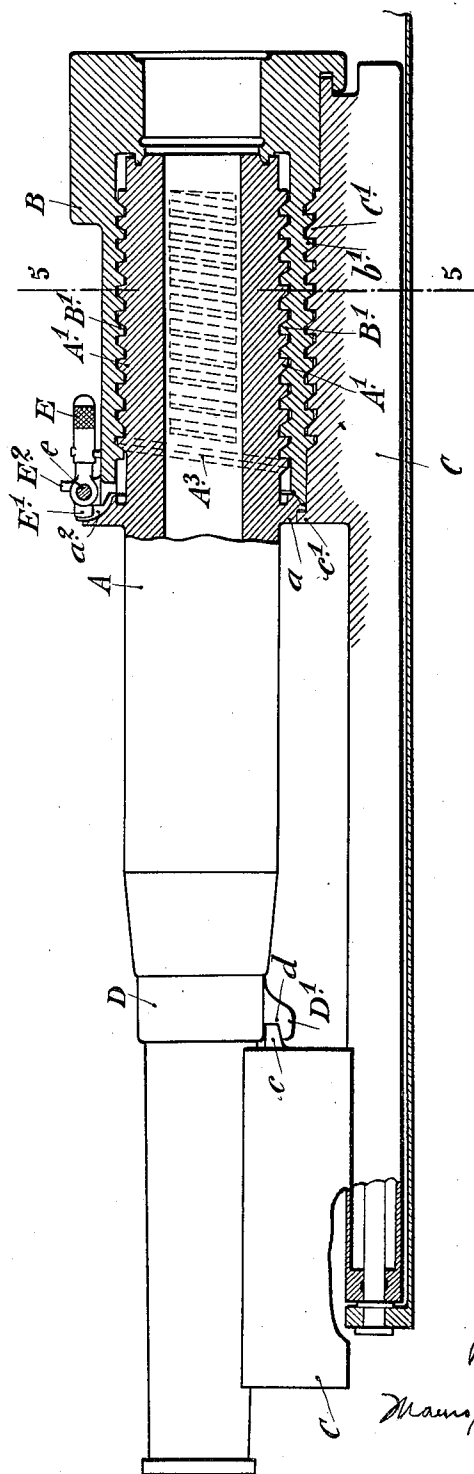
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MOUNTAIN GUN.
APPLICATION FILED OCT. 29, 1920.

Patented July 5, 1921.

7 SHEETS—SHEET 3.

Fig. 4.

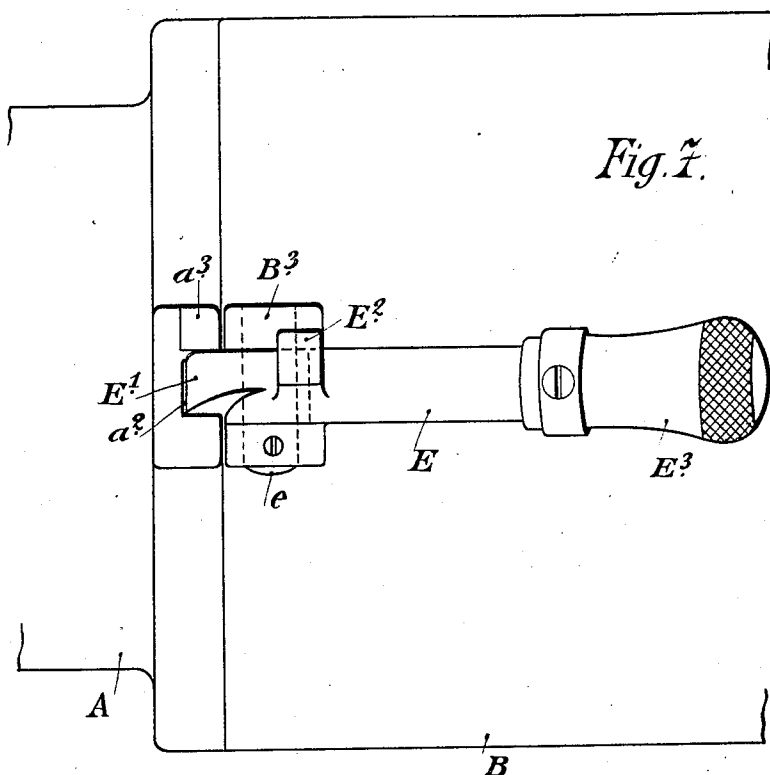
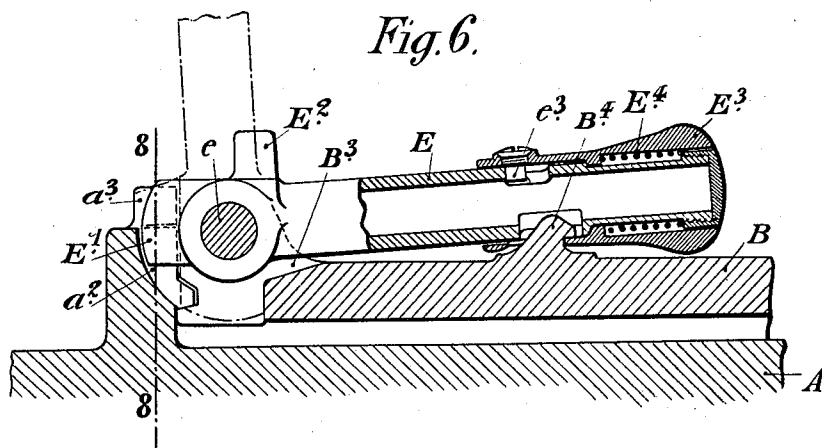


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7 SHEETS—SHEET 5.

Fig. 8.

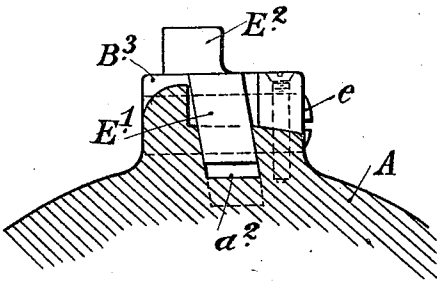


Fig. 9.

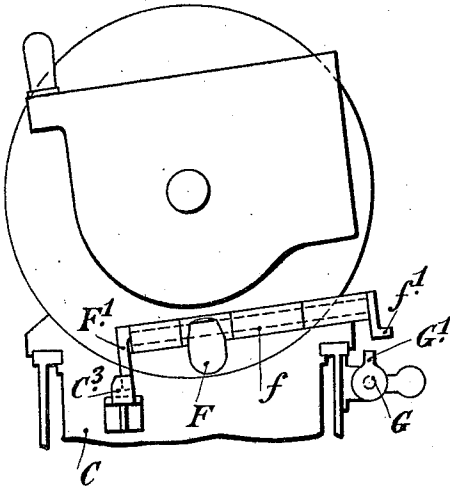


Fig. 10.

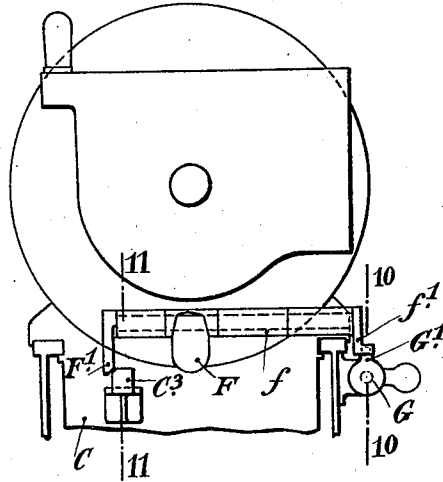
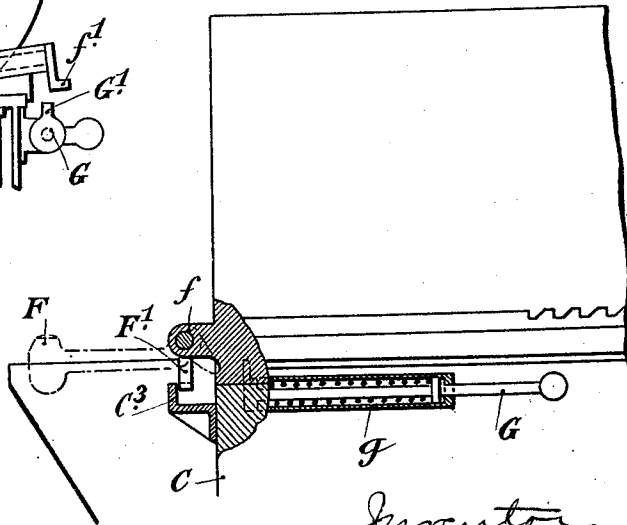


Fig. 11.



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7 SHEETS—SHEET 6.

Fig. 12.

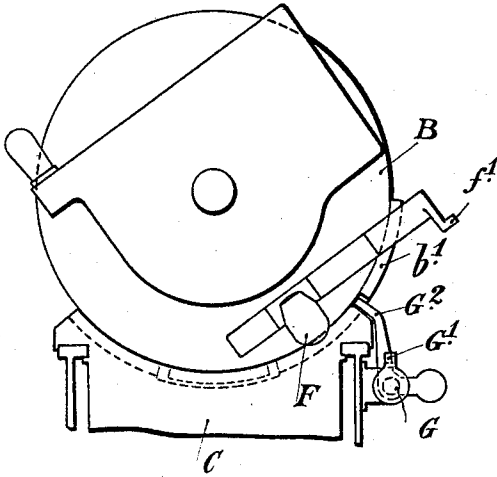


Fig. 14.

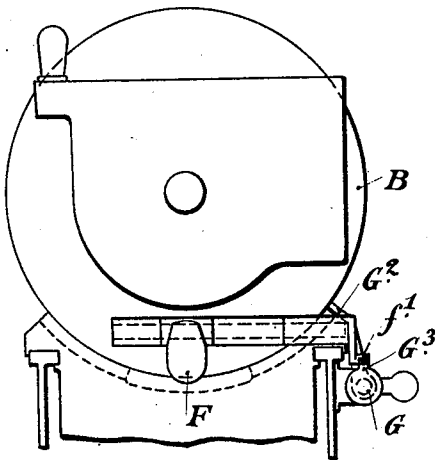


Fig. 16.

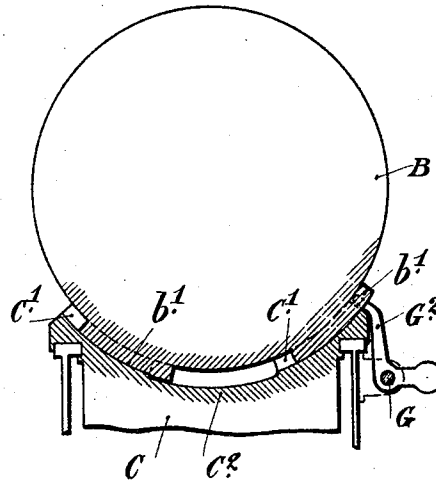


Fig. 17.

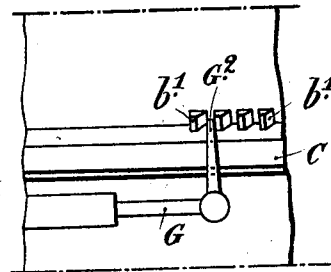
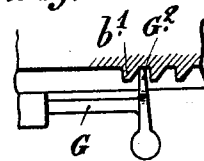


Fig. 18.



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MOUNTAIN GUN.
APPLICATION FILED OCT. 29, 1920.

7 SHEETS—SHEET 7.

Fig. 15 is a side view of the mechanical device. It shows a vertical component with a curved surface, labeled f^1 . A horizontal component, labeled b^1 , is positioned below the vertical component. A lever arm, labeled G^2 , is attached to the horizontal component and has a weight, labeled G , at its end. The lever arm is pivoted at a point labeled G^1 . The entire assembly is mounted on a base labeled C . A component labeled F is also visible on the left side of the device.

[illegible]

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UNITED STATES PATENT OFFICE.

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MOUNTAIN-GUN.

1,383,765.

Specification of Letters Patent.

Patented July 5, 1921.

Application filed October 29, 1920. Serial No. 420,528.

To all whom it may concern:

Be it known that I, EUGÈNE SCHNEIDER, a citizen of the Republic of France, resident of Paris, France, have invented new and useful Improvements in Mountain-Guns, which invention is fully set forth in the following specification.

This invention has for its object to provide an improved mountain gun of the type comprising a gun barrel, a breech-carrying sleeve and a gun slide, all capable of being separated from one another for transport.

The improved gun is characterized by the feature that the simultaneous assemblage of the breech-carrying sleeve with the gun slide and with the gun barrel that has previously been fastened upon the latter, is effected by a direct rotation of the said sleeve, this operation serving at the same time to keep one of the elements of the firing mechanism in its inoperative position until the aforesaid assemblage has been completed.

Various practical constructions of this invention are illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a longitudinal elevation partly in section of a constructional form of this invention.

Figs. 2 and 3 are sections on the lines 2—2 and 3—3 respectively of Fig. 1.

In these figures, the gun barrel is shown fastened upon the gun slide, the breech-carrying sleeve being engaged on the gun barrel in the position it occupies before it has been rotated for effecting its simultaneous assemblage with the gun barrel and the gun slide.

Fig. 4 is a view similar to Fig. 1, showing the parts of the gun in the positions they occupy when the assemblage has been completed.

Fig. 5 is a cross section on the line 5—5 of Fig. 4.

Figs. 6, 7 and 8 are drawn to a larger scale; they are respectively a longitudinal vertical section, a plan and an end view in section on the line 8—8 of Fig. 6, of a detail of the operating handle of the breech-carrying sleeve and of the mechanism for locking the latter upon the gun barrel.

Fig. 9 is an end elevation of the breech-carrying sleeve together with the parts of the firing mechanism which it carries. This figure shows in partial elevation the gun slide and the gun cradle, the complementary parts of the firing mechanism, and as regards the

gun slide, a safety device for preventing untimely firing until the rotation of the breech-carrying sleeve has been completed, that is to say, until the assemblage has been completed between the sleeve, the gun barrel and the gun slide. The figure shows the positions occupied by the parts during the last stage of the assembling operation.

Fig. 10 is a corresponding elevation showing the positions of the parts when the assemblage has been completed.

Fig. 11 is an elevation partly in section on the line 10—10 and partly on the line 11—11 of Fig. 10.

Fig. 12 is an end elevation of another constructional form of the safety mechanism for preventing untimely firing during the assembling operation of the sleeve, gun barrel and gun slide.

Fig. 13 is a corresponding partial longitudinal elevation.

In these figures the parts are shown in the positions they occupied when the breech-carrying sleeve is about to be engaged upon the gun barrel for the purpose of assembling the parts together.

Figs. 14 and 15 are views corresponding respectively to Figs. 12 and 13, but showing the parts in the positions they occupied at the end of the assembling operation.

Fig. 16 is a partial cross section showing the safety mechanism in the position it occupies during the rotation of the breech-carrying sleeve.

Figs. 17 and 18 are respectively a partial elevation and corresponding plan.

The improved gun comprises a gun barrel A, a breech-carrying sleeve B and a gun slide C adapted to be separated for transport.

The gun barrel A is provided on its outer surface at its rear portion with screw-threaded sectors A¹ alternating with plain sectors A², each tooth or thread of the screw-threaded sectors constituting one element of a screw. The gun slide C has likewise screw-threaded sectors C¹ on the two sides of a plain sector C².

The breech-carrying sleeve B is provided with screw-threaded sectors B¹ projecting from its inner surface and alternating with plain sectors B²; it is provided on its outer surface with screw-threaded sectors b¹ comprising between them a plain sector b².

The screw-threaded and plain inner sectors of the sleeve correspond to the plain and

screw-threaded sectors of the outer surface of the gun barrel. Similarly, the screw-threaded and plain outer sectors of the sleeve correspond to the plain and screw-threaded sectors of the gun slide.

To assemble together the parts of the gun, first the gun barrel A is to be fastened upon the gun slide C. For this purpose the gun barrel has a notch d formed between a collar D on the gun barrel and a hook D^1 projecting from the latter. This notch is adapted to engage a tenon c formed on the gun slide C. At the rear, in front of the screw-threaded portion, the gun barrel has a collar a in which is formed a mortise a^1 which is adapted to engage a tenon c^1 projecting from the gun slide C. By the engagement of the notch d with the nose c on the one hand, and of the mortise a^1 upon the tenon c^1 on the other hand, all forward movement of the gun barrel and all rotational motion of the latter are prevented during the assembly.

When the gun barrel has thus been fastened upon the gun slide, the breech-carrying sleeve B is placed in position by engaging the outer screw-threaded sectors b^1 between the sectors C^1 of the gun slide, this having at the same time the effect of engaging the inner screw-threaded sectors B^1 of the said sleeve upon the plain sectors of the gun barrel, that is to say, between the sectors A^1 , as shown in Figs. 1 and 3. The sleeve B is pushed until the inner sectors B^1 abut against a continuous front end thread A^3 on the gun barrel.

In order to assure the simultaneous assembly between the breech-carrying sleeve B and the gun barrel A on the one hand, and between the said sleeve and the gun slide C on the other hand, the said sleeve is rotated. The said sleeve is provided for this purpose with a handle E pivotally mounted on an axle pin e journaled in a block B^3 projecting from the said sleeve.

For operating purpose, the handle is turned up into the position shown in full lines in Fig. 3, and indicated in dot and dash lines in Fig. 6. During the rotary movement the teeth or screwthreads B^1 of the sleeve engage between the teeth or screwthreads A^1 of the gun barrel, while the outer teeth b^1 of the said sleeve engage between the teeth C^1 of the gun slide.

At the end of the rotary movement the handle E is turned down, thereby causing a heel E^1 which is inclined relatively to the shank of the handle, to engage in a notch a^2 of corresponding inclination provided in the gun barrel A; this allows of completing the assembly. The engagement of the inclined heel E^1 with the inclined sides of the notch a^2 effects a camming action that insures a tight seating of the sleeve in place. Inversely, for taking the whole to pieces,

the withdrawal of the heel E^1 from the notch a^2 facilitates the separation between the screw-threads of the gun barrel and the screw-threads of the sleeve. The handle E is provided with a second heel E^2 for limiting its turning-up movement by the said heel striking against a boss a^3 carried by the gun barrel. The handle proper or hand grip E^3 is movable on the handle shank E, and is provided for this purpose with a stud e^3 engaging in a groove in the said shank. A spring E^4 maintains the handle in the position shown in Fig. 6, wherein it is caught upon a nose B^4 of the sleeve B. In order to raise the handle for the purpose of effecting the assembling or disassembling operation, it is sufficient to exert a pull upon E^3 by compressing the spring E^4 .

In the example shown in Figs. 9, 10 and 11, security against an untimely operation of the firing mechanism is provided for as follows. The firing mechanism comprises in the known manner a hammer F mounted on an axle-pin f journaled in a support carried by the sleeve B. The actuation of the hammer is effected likewise in a known manner by means of a rod G which is kept normally out of operation by a spring g , said spring acting through a finger G^1 , upon a lever f^1 carried by the pin f .

It is clear that so long as the lever f^1 is situated outside the path of the finger G^1 , an untimely actuation of the rod G will not be able to fire the gun. On the other hand, as soon as the finger G^1 is situated in the path of the lever f^1 , it is necessary to prevent an untimely actuation of the rod G from causing the hammer F to fall down before the assembly has been completed between the sleeve B, the gun barrel A, and the gun slide C.

According to this invention, the axle-pin f of the hammer F is provided with a finger F^1 , which toward the end of the movement of rotation of the sleeve B for the purpose of assembling the parts together, engages behind a flange C^3 formed on a bracket fixed to the gun slide C. By this means any raising of the hammer for the purpose of firing the guns is thereby prevented from taking place until the finger F^1 shall have moved beyond the flange C^3 , which can only happen when the assembly has been completed and the sleeve seated in locking position.

In the example shown in Figs. 12 to 18, the actuating rod G is mounted on the gun support and carries on its front end a finger G^2 . This finger G^2 is of a length such that its free end will engage between the screwthreads b^1 of the sleeve B and remain held between two of the said threads during the whole duration of the movement of rotation of the sleeve. When the sleeve B is in place upon the gun barrel A, the parts occupy the

positions shown in Figs. 12 and 13; the finger G^2 being situated below the screw-threads b^1 flush with the gap between two of the said threads; during the movement of rotation, the end of the finger remains engaged between two screw-threads, as shown in Figs. 16, 17 and 18. When the assembly has been completed and the sleeve seated, the finger G^2 becomes entirely free, as shown in Figs. 14 and 15, and the rod G is freed so that it can be actuated for firing.

Claims:

1. A separable gun comprising a slide, a barrel detachably mounted on the slide and a rotatable breech-carrying sleeve interposed between the slide and barrel when the parts are assembled, said sleeve having external and internal threaded sectors alternating with plain sectors to cooperate with complementary sectors of the slide and barrel respectively to lock the parts together for firing by the rotation of said sleeve, in combination with a firing mechanism including a controlling member on the breech-carrying sleeve to engage a holding member on the slide during the rotative locking movement of said sleeve to maintain the firing mechanism inoperative during such rotative movement of the sleeve until the latter is seated and the controlling member is disengaged from the holding member to render operative the firing mechanism.
2. A separable gun comprising a slide, a barrel detachably mounted on the slide and a rotatable breech-carrying sleeve interposed between the slide and barrel when the parts are assembled, said sleeve having external and internal threaded sectors alternating with plain sectors to cooperate with complementary sectors of the slide and barrel respectively to lock the parts together for firing by the rotation of said sleeve, in combination with a firing mechanism including an actuating rod movably mounted on the gun support having a controlling finger positioned to engage the threads of a threaded sector of the breech-carrying sleeve during the rotative locking movement of said sleeve to prevent firing actuation of said rod, said finger being disengaged from the threads when the sleeve is seated and said rod thereby freed for actuation of the firing mechanism.
3. A separable gun comprising a slide, a barrel detachably mounted on the slide and a rotatable breech-carrying sleeve interposed between the slide and barrel when the parts are assembled, said sleeve having external and internal threaded sectors alternating with plain sectors to cooperate with complementary sectors of the slide and bar-

rel respectively to lock the parts together for firing by the rotation of said sleeve, in combination with a handle pivoted at one end to the breech-carrying sleeve to form a turning lever for said sleeve when the handle is raised, said handle having at its pivoted end a heel to engage a projection of the gun barrel when the handle is turned down and when the sleeve is turned to seated position, the engagement of the heel with the projection operating to lock the sleeve in its seated position.

4. A separable gun comprising a slide, a barrel detachably mounted on the slide and a rotatable breech-carrying sleeve interposed between the slide and barrel when the parts are assembled, said sleeve having external and internal threaded sectors alternating with plain sectors to cooperate with complementary sectors of the slide and barrel respectively to lock the parts together for firing by the rotation of said sleeve, in combination with a handle pivoted at one end to the breech-carrying sleeve to form a turning lever for said sleeve when the handle is raised, said handle having at its pivoted end a heel to engage a projection of the gun barrel when the handle is turned down and when the sleeve is turned to seated position, the engagement of the heel with the projection operating to lock the sleeve in its seated position, and releasable means for engaging the handle to the gun barrel when said handle is turned down.

5. A separable gun comprising a slide, a barrel detachably mounted on the slide and a rotatable breech-carrying sleeve interposed between the slide and barrel when the parts are assembled, said sleeve having external and internal threaded sectors alternating with plain sectors to cooperate with complementary sectors of the slide and barrel respectively to lock the parts together for firing by the rotation of said sleeve, in combination with a handle pivoted at one end to the breech-carrying sleeve to form a turning lever for said sleeve when the handle is raised, said handle having at its pivoted end an inclined heel to engage a corresponding inclined recess in the gun barrel when the handle is turned down and when the sleeve is turned to seated position, the engagement of the inclined heel with the inclined slot effecting a camming action to insure a tight seating of the sleeve.

In testimony whereof I have signed this specification.

EUGÈNE SCHNEIDER.

Witnesses:

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LOUIS GARDET.