

Sept. 15, 1931.

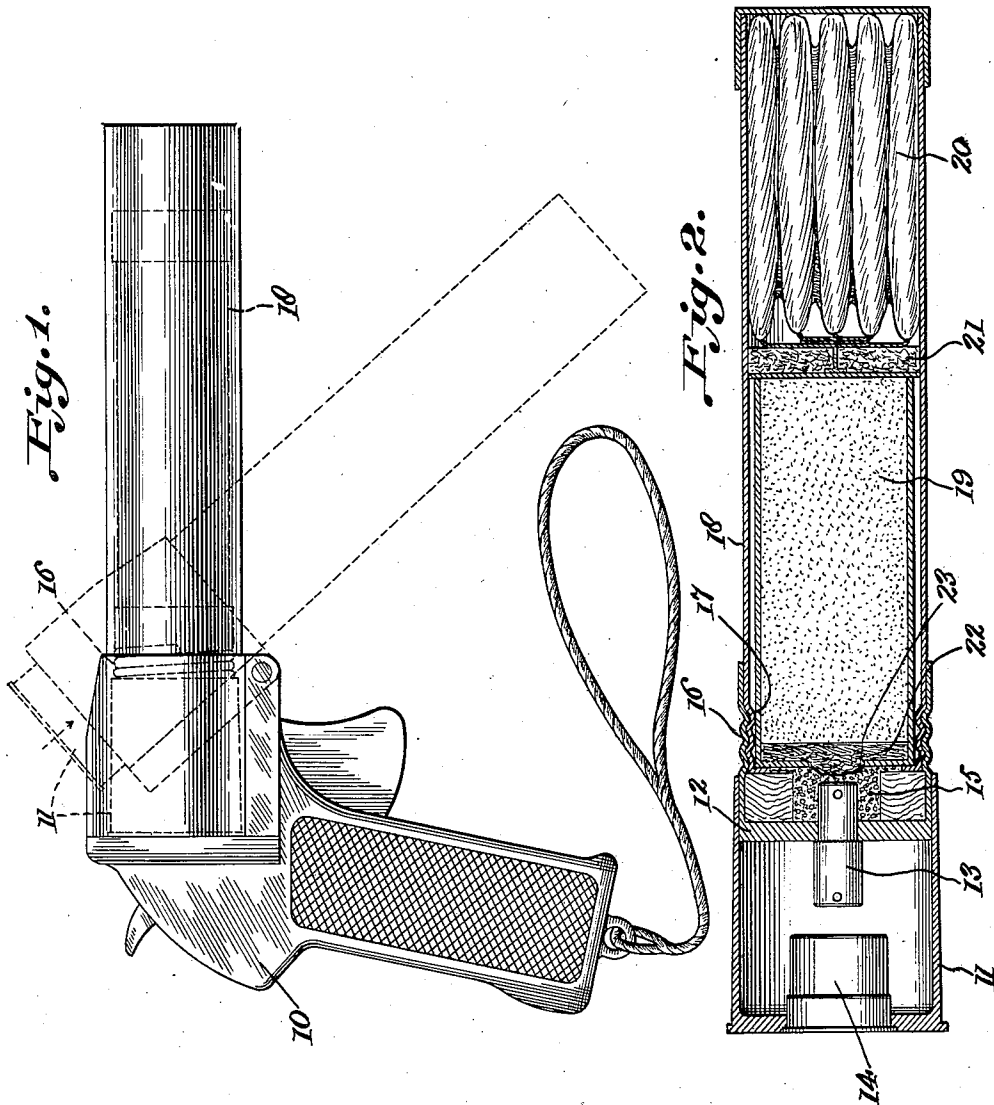
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1,823,390

AMMUNITION FOR SIGNAL PISTOLS

Filed Nov. 25, 1930

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Fig. 3.

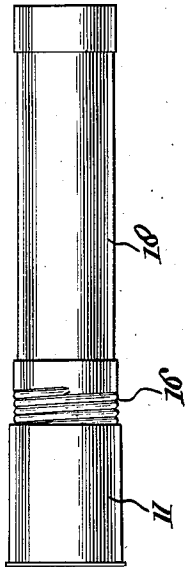


Fig. 4.



Fig. 5.

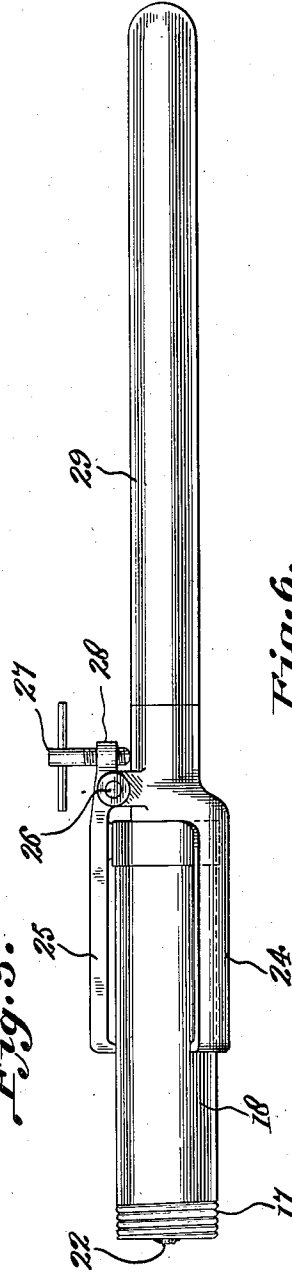


Fig. 6.



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UNITED STATES PATENT OFFICE

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AMMUNITION FOR SIGNAL PISTOLS

Application filed November 25, 1930. Serial No. 498,148.

The present invention relates to improvements in ammunition for signal pistols and consists in certain improvements over our prior Patents Nos. 1,712,382 and 1,712,383 granted May 7th, 1929; as shown and described in the prior patents aforesaid, a pistol is provided for shooting a projectile, which projectile consists of a parachute and a flare candle.

The present invention is concerned with the ammunition, making it of such construction that it is suitable to be fired from the pistol or to be used as a hand flare or signal.

At the present time standard life boat signals or lights consist of hand torches adapted to be held aloft by an occupant of the boat. The range of visibility of such a signal is very limited owing to the curvature of the earth and also due to the fact that the light is cut off when the boat is in the trough of a wave. Tests indicate that under the best of conditions these signals can be seen only about six miles. Rockets are out of the question for life boat use due to the difficulty of launching them from a small boat.

Tests have been conducted by the U. S. Coast Guard and the Steamboat Inspection Service of parachute signals constructed according to our prior patents aforesaid when firing from signal pistols. These tests have shown a range of visibility under good conditions in excess of twenty miles.

As a result, signals according to the above mentioned patents have been approved by the Steamboat Inspection Service for use on vessels of 200 tons and over in place of rockets but the problem involved in life boat use is that the signal has not been usable heretofore without the pistol, and because the pistol may possibly become damaged or lost overboard, the devices are not approved for life boat use.

It is therefore an object of the invention to so construct the fixed ammunition that the signals will be usable even though the pistol is lost or damaged; and to this end we have provided a convertible piece of ammunition.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more par-

ticularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views.

Figure 1 is a side elevation of a pistol and ammunition constructed in accordance with the present invention.

Figure 2 shows a longitudinal section taken through the improved ammunition.

Figure 3 is a side elevation taken on a smaller scale of the ammunition detached and apart from the pistol.

Figure 4 shows the projectile case containing the parachute and flare candle removed from the cartridge case and projectile base, as when used as a hand torch.

Figure 5 is a side elevation of the hand torch mounted in a holder, and

Figure 6 is a plan view of a striker stick.

Referring more particularly to the drawings, 10 designates generally a pistol which may be of any suitable construction, for instance as shown in our prior patents above noted. The pistol is breech loading and is designed to use a signal in the form of fixed ammunition.

This ammunition is shown more particularly in Figure 2 and consists of a short cartridge case 11 and a flare projectile. The projectile is in two parts which are ready separable. One part involves a base cup 12 which contains a delay fuse 13 projecting into the cartridge case. In the cartridge case is the usual propelling charge 14. The projectile base also contains the bursting or expelling charge 15 which contacts with or communicates with the flare candle.

The projectile base has a portion extending outwardly beyond the cartridge case, such portion being preferably screw threaded as indicated at 16 or otherwise fashioned to cooperate with a complementary threaded or other portion 17 upon the projectile case 18 in which are housed the flare candle and the parachute 20. Such parachute and candle may be separated by a gas check 21, as indicated. Thus the projectile case 18 containing the flare candle 19 and the parachute 20 screws into and out of the projectile base 12

much in the same manner as the parts of an electric hand flash light are screwed together.

The end of the candle 19 is primed with a self igniting priming composition 22, a portion of which projects through the perforated end cap 23 of the projectile case 18 and into contact with the expelling or bursting charge 15.

In the use of the device, as an aerial signal, the entire projectile is shot into the air from the pistol, the projectile leaving the gun with the delay fuse 13 ignited from the propelling charge 14 contained in the cartridge case 11. At the peak of its flight, the delay fuse 13 burns through and ignites the expelling charge 15 and the burning candle and parachute are ejected from the projectile case 18, the ignited candle being suspended by the parachute as shown in Figure 9 of our prior Patent No. 1,712,383.

In the event of a failure of the pistol or if it should be lost overboard, means must be provided for using the candle as a hand torch. This is accomplished by unscrewing the portion of the projectile that contains the candle and parachute, and inserting same in a holder so that it can be held in the same manner as a hand torch.

By unscrewing the projectile case 18 from the screw threads 16 of the projectile base 12, the parachute and candle are removed from the base and cartridge case and appear as shown in Figure 4, with the priming composition 22 exposed through the perforated end of the projectile case 18.

The device so removed may be placed in a holder such as shown in Figure 5, the holder being composed for example of the jaws 24 and 25 which are designed to grip the sides of the projectile case 18. One or more of the jaws, such as the jaw 25, may be pivoted as indicated at 26 and made adjustable by the adjusting screw 27 which engages through a tail piece 28 of the jaw 25 and against the side of the handle or shank 29.

In Figure 6 we have shown a striker stick 30, one being provided for each signal and being composed of suitable material with a roughened or kindling surface 31 thereon. The priming material is ignited by striking it across this friction surface 31 and the torch is held aloft in the holder 29.

The portion of the ammunition consisting of the cartridge case 11 and projectile base 12 are discarded as they have no purpose when the signal is used as a hand torch.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims:

What is claimed is:—

1. A pyrotechnic signal flare comprising a closed projectile case, a pyrotechnic candle therein, a friction ignitable priming composition attached to said candle, and means on one end of said case for detachably securing a member containing a primer and a propelling charge.

2. A pyrotechnic signal flare comprising a projectile case, a pyrotechnic candle therein, a parachute also in the case coupled to said candle, a manually ignitable composition attached to said candle, and a member detachably connected with said case for containing a primer and a propelling charge, whereby said candle may be detached for use as a hand flare.

3. A pyrotechnic signal flare comprising a closed projectile case, a pyrotechnic candle therein, a friction ignitable priming composition attached to said candle, a member detachably secured to said case for containing a primer and an expelling charge, and a delay element fired from the gun with said case and acting to ignite the candle and drive it from said closed case.

4. A pyrotechnic signal flare comprising a closed projectile case, a coupled pyrotechnic candle and parachute therein, a friction ignitable priming composition attached to said candle and exposed through the case, a base cup detachably fitted to said case containing a bursting charge for driving the candle and parachute from the case, and a cartridge case detachably secured to said base cup for containing a primer and a propelling charge.

5. A pyrotechnic signal flare comprising a closed projectile case, a coupled pyrotechnic candle and parachute therein, a friction ignitable priming composition attached to said candle and exposed through the case, a base cup detachably connected with the case at the end having the priming composition whereby the case may be removed from the base cup to expose the priming composition, a bursting charge carried within said base cup against the priming composition of the candle, a delay element also carried by said base cup, and a cartridge case containing a primer and a propelling charge, said cartridge case detachably secured to said base cup.

6. A pyrotechnic signal flare comprising a cartridge case containing a primer and an expelling charge adapted to remain in the gun, a base cup removably fitted in said cartridge case and adapted to be projected from the gun when fired and containing a delay fuse and a bursting charge, a pyrotechnic candle, an ignitor on said candle, a parachute connected to said candle, and a projectile case carrying said candle and parachute and removably connected with said base cup, whereby said candle may be detached for access to said ignitor.

7. A pyrotechnic signal flare comprising a

cartridge case containing a primer and a propelling charge and adapted to remain in the gun, a base cup fitted removably to said cartridge case and containing a delay fuse and a bursting charge, a pyrotechnic candle, an ignitable portion thereon, a parachute connected to the candle, a projectile case for containing said candle and parachute having an open end adjacent the candle exposed to the bursting charge, said base cup and projectile case having means therebetween for permitting of the separation of the projectile case with the candle and parachute to expose the end of the candle for use as a hand torch.

8. A pyrotechnic signal flare comprising a projectile case, a pyrotechnic candle therein, a friction ignitable priming composition attached to said candle, an expelling charge adjacent to said priming composition, a delay fuse element inserted through the case and communicating with said expelling charge, and means at the fused end of said case for detachably securing the member containing a primer and propelling charge.

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