

976,459.

2 SHEETS--SHEET 1.



WITNESSES
Her. Heinrich
C. Singer

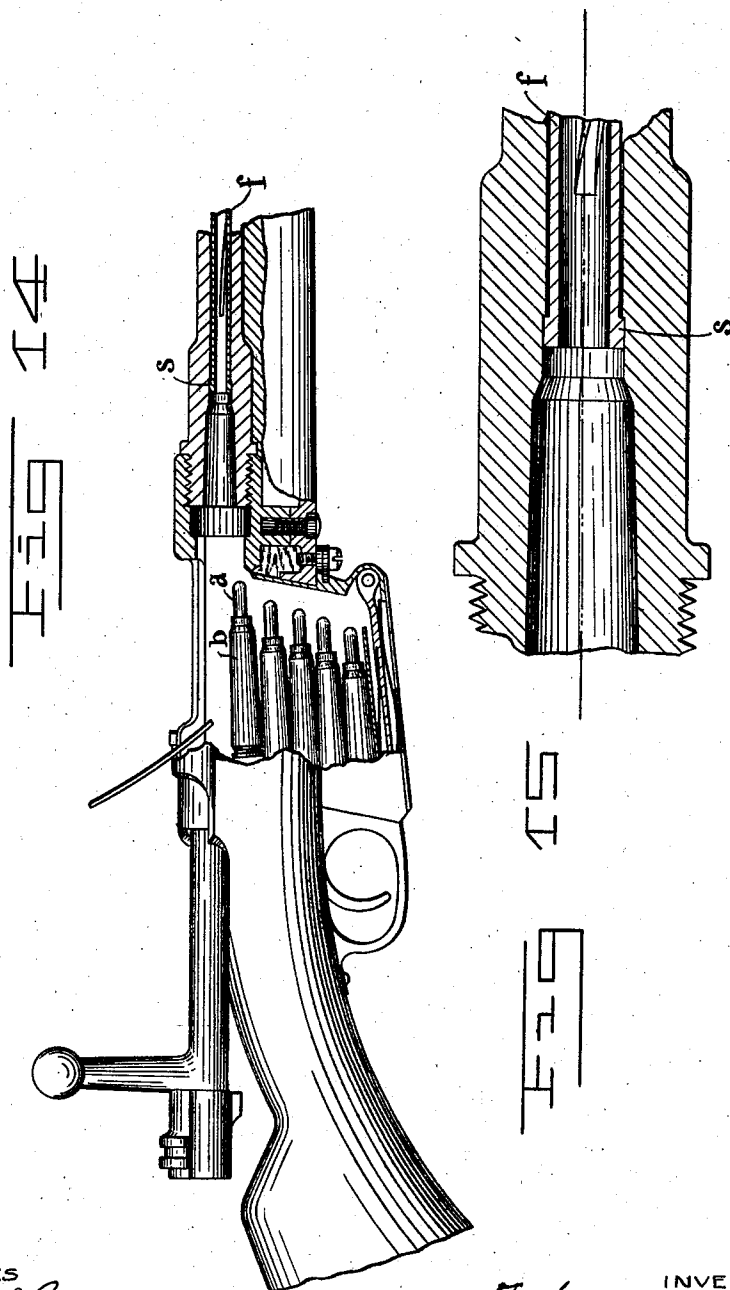
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F. HARTMANN.
CARTRIDGE FOR REDUCED SHOT.
APPLICATION FILED SEPT. 25, 1909.

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Patented Nov. 22, 1910.

2 SHEETS—SHEET 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

FEDERICO HARTMANN, OF BUENOS AYRES, ARGENTINA.

CARTRIDGE FOR REDUCED SHOT.

976,459.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed September 25, 1909. Serial No. 519,572.

To all whom it may concern:

Be it known that I, FEDERICO HARTMANN, civil engineer, citizen of the Argentine Republic, and residing at 25 de Mayo street, 240, Buenos Ayres, Argentine Republic, have invented a Cartridge for Reduced Shot, of which the following is a specification.

It is the object of the present invention to provide a cartridge for reduced shot adapted to be equally well used in any class of fire arms, such as rifles, revolvers, etc., having any desired caliber.

The essential and principal feature of my invention consists in providing a specially constructed cartridge for reduced shot, adapted to be used in portable military fire arms by simply introducing an auxiliary barrel into the barrel of fire arms, or by suitably using said barrel itself as holder for said cartridge.

The cartridge forming the object of this invention has the general appearance of an ordinary military fire arm cartridge of the class for which it is intended to be used.

In the accompanying drawings forming part of this specification Figure 1 represents a rifle cartridge in side elevation. Fig. 2 is a longitudinal section through the same, the cartridge proper being represented in full view. Fig. 3 is a longitudinal section through a preferred form of casing. Fig. 4 is a rear view of the same. Fig. 5 shows in section an outside casing constituting the shell of the usual military cartridge. Fig. 6 is a rear view thereof. Fig. 7 shows in elevation a cartridge of small caliber to be used in a rifle of larger caliber. Fig. 8 shows in section a percussion hammer used in combination with the cartridge for reduced shot. Fig. 9 is a rear view thereof. Fig. 10 is a front view of the percussion hammer, Fig. 8. Fig. 11 is a longitudinal section through a casing guiding a cartridge of reduced shot for repetition pistols. Fig. 12 shows the percussion hammer shown in Fig. 8 in elevation, with the exception that in place of the lever spring, a circular rim is provided. Fig. 13 is a rear view of the percussion hammer shown in Fig. 12. Fig. 14 is a side view partly in section of a military rifle showing its chamber stocked with cartridges of reduced shot. Fig. 15 is a detail view on a larger scale demonstrating the way to secure the barrel for reduced shot in the rifle bore. Fig. 16 is an elevation of a cartridge used for repetition pistols.

The reduced shot cartridges for military rifles are composed of the following elements:—1. An exterior shell *b* constituting the shell of the customary military cartridge, from which part of the neck and the bottom have been removed. 2. A casing *c* provided with neck part and bottom flange, which is introduced into the shell *b*. 3. A cartridge *a* of small caliber as commonly used in rifles. 4. A percussion hammer *d* which may be of any type, preferably as shown in Figs. 8 or 12.

The percussion hammer represented in Fig. 8 consists of a cylindrical body *d*, a head somewhat larger than said body, provided with percussion points *p*, causing the fulmination of the cartridge *a* by colliding with the cap of the same, a lever spring *n* provided with the curved end *r* embedded in a circular groove *o* of the outer mantle *c*, so as to be retained in its adjusted position, and finally a cylindrical perforation *e*, in which a piece of soft metal is introduced; the point of the percussion hammer of the rifle then produces the explosion of the loaded cartridge by contacting with said piece of soft metal.

The percussion hammer illustrated in Fig. 12 is mainly the same as that shown in Fig. 8, with the exception that instead of the lever spring *n*, a circular rim *m* is provided.

A cartridge of reduced shot for repetition pistols consists of a shell *g*, provided with a circular groove *l* and an internal groove *k*, in which a circular spring *J* is lodged, tending to keep the percussion hammer *i* having percussion points *h* in its place, and a circular recess *q* is adapted to receive a piece of soft metal, with which the percussion hammer of the gun collides.

When using my cartridge of reduced shot for military rifles, the cartridges are placed in the chamber of the rifle in any desired number, the same as using military cartridges.

The reduction barrel is secured in the inside of the bore of the rifle barrel, by introducing into the latter barrel, a barrel *f* of less interior diameter, which occupies half of the room allotted in the military rifle for the reception of the neck of the shell. This can be clearly seen in Fig. 15. The auxiliary barrel is adjusted by a nut from the muzzle of the rifle.

The principal advantage obtained by using the cartridges forming the object of the

present invention, is to be seen in the fact that the same can be used in the exercise of target shooting with military rifles without damage or injury for the latter, the cartridges may also equally well be used in 5 discalibrated rifles.

Another important feature of the present invention is to be seen in the fact that the cost of the bullet, which is the only object 10 being lost when firing the cartridge *a* is insignificant, and that the other parts of the cartridge are not damaged in any way, as by continual wear and tear, this refers also to the reduction barrel *f*.

15 Having thus described my invention, what I claim is:—

1. A cartridge for reduced shot comprising in combination with an outer shell corresponding to the caliber of the fire arm to be used, a casing having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap 20 of the cartridge of smaller caliber, means to retain said percussion hammer in its position of rest, and means adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber. 30

2. A cartridge for reduced shot comprising in combination with a shell corresponding to the caliber of the fire arm to be used, and having a neck and a bottom flange, a 35 cartridge of smaller caliber located in said neck part, a spring retained percussion hammer, interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, and 40 means adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

3. A cartridge for reduced shot comprising in combination with an outer shell corresponding to the caliber of the fire arm to be used, a casing having a neck and a bot-

tom flange, a cartridge of smaller caliber located in said neck part, a spring retained percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, a cylindrical recess at the rear end of one of said percussion hammers, a piece of soft metal within said recess adapted to be engaged by the percussion hammer of the 55 fire arm to cause the explosion of the cartridge of smaller caliber.

4. A cartridge for reduced shot comprising in combination with a shell corresponding to the caliber of the fire arm to be used, 60 and having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a spring retained percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap 65 of the cartridge of smaller caliber, percussion points at one end of one of said hammers and a circular recess at the other end for the reception of a piece of soft metal adapted to be engaged by the percussion 70 hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

5. A cartridge for reduced shot comprising in combination with an outer shell, an auxiliary barrel for reducing the caliber of 75 the fire arm to be used, a casing having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a percussion hammer interposed between the percussion hammer of the fire arm and the 80 percussion cap of the cartridge of smaller caliber, means to retain said percussion hammer in its position of rest, and means adapted to be engaged by the percussion of the fire arm to cause the explosion of the car- 85 tridge of smaller caliber.

In testimony whereof I affix my signature in presence of two witnesses.

FEDERICO HARTMANN.

Witnesses:

JOSE S. GALLARDO,
C. FONDINIL.