F. W. FREUND.

PRIMERS FOR CARTRIDGES.

No. 184,854. Patented Nov. 28, 1876.

Fig. 1

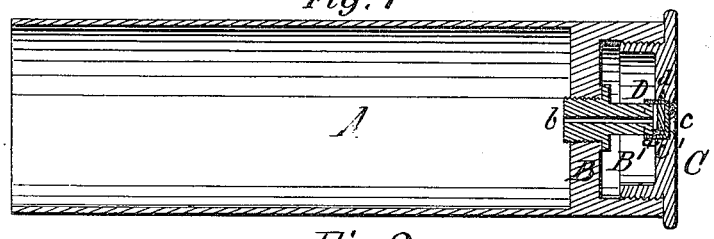


Fig. 2

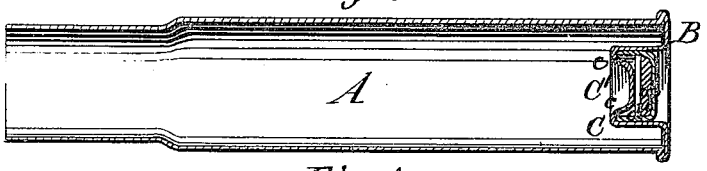


Fig. 4

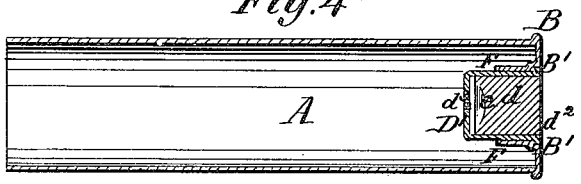


Fig. 3

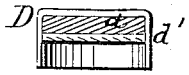
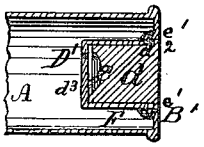


Fig. 6

Fig. 5



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UNITED STATES PATENT OFFICE.

FRANK W. FREUND, OF CHEYENNE, WYOMING TERRITORY.

IMPROVEMENT IN PRIMERS FOR CARTRIDGES.

Specification forming part of Letters Patent No. 184,854, dated November 28, 1876; application filed October 12, 1876.

To all whom it may concern:

Be it known that I, FRANK W. FREUND, of Cheyenne, in the county of Laramie and Territory of Wyoming, have invented certain new and useful Improvements in Cartridges, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of a shot-gun cartridge constructed according to my improved mode. Fig. 2 is a central section of a rifle-cartridge. Fig. 3 is a central section of one of my improved caps used for igniting the charge of the said rifle-cartridge. Fig. 4 is a central section of a cartridge with a reversed cap. Fig. 5 is a modification of the cartridge shown in Fig. 4. Fig. 6 is a front view of the same.

The nature of my invention consists in a removable cap or primer, as will be hereinafter described and specifically claimed, which is adapted for use in connection with a cartridge for preventing the escape of gas rearward when the charge is exploded.

The object of my invention is to avoid the bad consequences resulting from the escape of gas when the cartridge is fired, such as burning the operator's face and hands, or wounding him by fragments of the cap or of the cartridge-case.

In the drawings, A, in Figure 1, represents a cartridge-shell for a shot-gun, the bottom B of which is provided with a nipple, *b*, and a gas-chamber, B′, formed by the rear extension of the cylindrical shell, and closed up by a removable cap or bottom, C, with a center hole, *c*, for the firing pin. The said nipple *b* is provided with a cap, D, which has at its bottom a metal block, *d*, fitted into it, upon which the fulminate d^1 is fastened, as shown in Fig. 3.

When the cartridge is loaded the cap D is partly inserted in a recess, *c*′, of the bottom C, which prevents the blowing out of gases and fragments of the cap. The firing-pin strikes the cap and forces the metal block upon the fulminate and nipple, thereby exploding it.

Fig. 2 is an ordinary Berdan cartridge, as now in use, to which I apply my improved cap. The cartridge A has a bottom, B, which is so shaped as to form an inverted cylinder, C, with a raised bottom, C′, upon which the fulminate d^1 is fastened, and which bottom has holes *c*, to communicate the fire to the powder of the cartridge. The same cap D, as used in cartridge A, Fig. 1, is used in cartridge Fig. 2, and the fulminate d^1 may also be fastened to the block *d*, instead of to the bottom C′.

The cartridge A shown in Fig. 4 has an open bottom or back, B, with an annular step, B′, and an open cylinder, F, into which a cap, D′, is inserted bottom forward. The said cap D′ has a flanged rim, d^2, which fits the annular step, B′. The bottom of the said cap has a hole, d^3, for communicating the fire of the fulminate to the cartridge. The cap D′ contains a block, *d*, fitted into it, and the fulminate d^1, which may be fastened to the block *d*, or to the bottom of the cap D. The block *d* may have a dish-shaped concavity, which serves as a gas-trap.

The cartridge A shown in Fig 5 is of similar construction to that shown in Fig. 4, only that the cylinder F is shorter and the step B′ deeper, so that the rim d^2 of the cap D′, and the rim *e*′ of the block *d*, may be received, and a little play allowed to the block for the purpose of firing the fulminate. The cap D′ has a number of holes, d^3, to allow the fire of the fulminate to pass into the cartridge.

In carrying out my invention after the mode shown in Figs. 1 and 2, a cap of ordinary construction, without fulminate on its bottom, is employed, and within this cap a block, which serves as an anvil, is placed, and at the forward end of this block the fulminate is arranged. With a cap or primer thus constructed the blow of the hammer or firing-pin causes the metal of the bottom of the cap to be indented, and by this means the anvil is forced forward against the fulminate and caused to explode it, and if the cap is ruptured by the blow the explosion will force the block or anvil backward, and thereby close the aperture or opening caused by the rupture, and prevent the escape of gas rearward.

What I claim is—

1. A removable cap or primer for a cartridge, having a block or anvil fitted within it, which block receives the force of the blow of a hammer or firing-pin upon one side and transmits

it upon the other side to the fulminate, substantially as and for the purpose described.

2. A removable cap or primer for cartridges, having an opening or openings in its bottom, and a block or anvil arranged within it, substantially as described.

Witness my hand in the matter of my application for a patent on a metallic cartridge, this 22d day of August, 1876.

FRANK W. FREUND.

Witnesses:
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C. N. POTTER.