C. F. de Dartein & J. E. de Dartein. Cartridge.

No. 120,630. Patented Nov. 7, 1871.

Fig. 1.

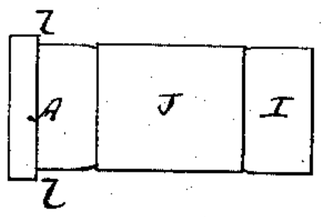

Fig. 2.

Fig. 4.

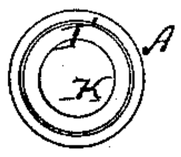

Fig. 3.

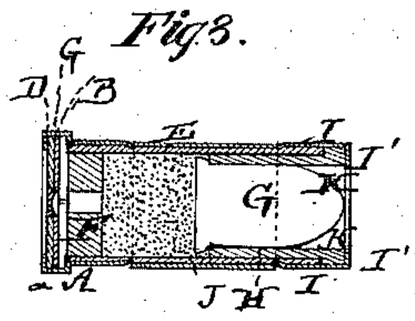

Fig. 5.

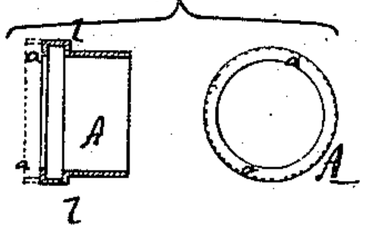

Fig. 6.

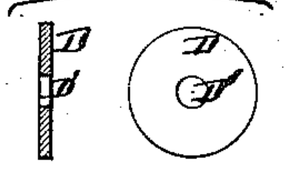

Fig. 7.

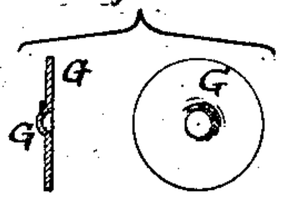

Fig. 8.

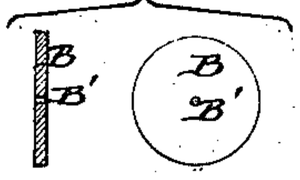

Fig. 9.

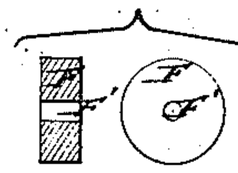

Fig. 10.

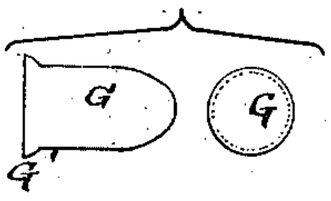

Fig. 11.

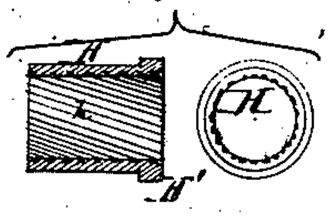

Fig. 12.

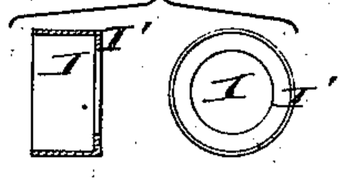

Fig. 13.

Fig. 14.

WITNESSES.
P. C. Dieterich.
L. S. Mabee

INVENTOR.
C. F. De Dartein
J. E. De Dartein
per. Munn & Co
ATTORNEYS.

120,630

UNITED STATES PATENT OFFICE.

CHARLES FELIX DE DARTEIN AND JULES EDOUARD DE DARTEIN, OF STRASBOURG, FRANCE.

IMPROVEMENT IN METALLIC CARTRIDGES.

Specification forming part of Letters Patent No. 120,630, dated November 7, 1871.

To all whom it may concern:

Be it known that we, CHARLES FELIX DE DARTEIN and JULES EDOUARD DE DARTEIN, of Strasbourg, in the Empire of France, have invented an Improved Cartridge; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of the same.

The object of this invention is to produce an improvement in the class of cartridges so constructed that when the charge is exploded it closes the crevices that exist between the revolving cylinder and the barrel of arms of the revolver class, and at the breech ends of other arms, so as to prevent the escape of gas rearward and the consequent loss of projective force; and also to produce a cartridge adapted to cause the commencement of the rotation of the ball or bullet before leaving it. To this end the invention consists in providing the front end of the cartridge-case with a metallic cap having an aperture for the passage of the bullets, and in forming spiral ribs or grooves on the inside of the said ferrule or lining.

Figure 1 is a longitudinal elevation of our cartridge; Fig. 2, a back view. Fig. 3 is a longitudinal section; Fig. 4, a front view of the cartridge; Figs. 5 to 13, each, a section and a face view of the several component pieces of the cartridge. Fig. 14 shows a modification of the invention.

These pieces are nine in number. The base is formed of a short metallic cylinder, A, having a shoulder, *l*, struck up, as shown in Fig. 5. The following pieces are successively inserted in the rear end of the cylinder, viz., a metallic anvil-disk, B, having a small hole, B′, at the center; a metallic priming-disk, Fig. 7, slightly recessed at the center for receiving the fulminate G′; next, a disk, D, Fig. 6, perforated at the center D′ so as to receive the projection of the primer G. These pieces are secured by turning down the portion *a a*, shown in Fig. 5 by dotted lines. The next step is to introduce in the smaller or front part of the cylinder A, and to fix or set therein, a paper cylinder or casing wrapped up in prepared or greased cloth or India rubber E, Fig. 13, having at one end a washer, F, of pasteboard, wood, leather, or any other suitable material, and provided with a central aperture, F′, Fig. 9. The necessary powder-charge is then poured in, and the bullet G, Fig. 10, which has been previously forced into its socket H, Fig. 11, is inserted. A little shoulder, G′, holds it in frictional contact with the cartridge. The socket H is provided in front with a collar, H′, which is of the same diameter as the casing E. The cartridge is completed by slipping a metallic cap, I, Fig. 12, over the said casing, this cap being pierced by a hole equal to or somewhat larger than the back end of the barrel. A circular flange, I′ I′, is formed at the front end of the cap, the functions of which will be hereinafter explained. Between the front and back cylinders A and H we wind paper, pasteboard, cloth, or other suitable material, so as to render the cartridge even and smooth along its central portion, and the empty space K left by the bullet in front of the cartridge may be filled with a drop of tallow, which, during practice, will lubricate the barrel and increase the range. For rifled arms the socket H is grooved helically inside *h*, Fig. 11, so as to cause the bullet to turn on leaving the cartridge; and in this case a lug is likewise provided between the casing E and socket H to prevent the latter from turning and for allowing the bullet to follow a straight line.

The cartridge having been inserted in the breech of the gun-barrel, on pulling the trigger the hammer, by its impact at G′, will produce the ignition of the fulminating matter, and thus communicate a spark to the powder through the holes B′ F′. When this takes place the bullet is propelled either straight or with a rotary motion, according as the bore of the arm is smooth or rifled. Also, owing to the expansion of the gases, and because the shoulder G′ has a caliber larger than that of the casing H, the latter is impelled forward, and, by the pressure of the collar H′ against the flanges I′ I′, causes the latter to be applied or blown powerfully and gas-tight against the breech end of the barrel. The waste of gas is thus rendered utterly impossible, as far as windage between the breech or cylinder and barrel is concerned, through the very pressure of the gases acting upon the swelling G′ of the bullet, as well as on the socket H and on the flanges I′ I′, thus closing any issues by which the gases might have taken their escape. The like takes

place with regard to the back face of the breech on the cylinder, the flanges *a a* of the blank A producing the same effect as those I′ I′ in front.

Having thus described our invention, what we claim as new, and desire to protect by Letters Patent, is—

1. In a cartridge, the combination with the cylinder or socket H, provided with the collar H′, of the cap I having the circular inner flange I′, as and for the purpose described.

2. In a cartridge, the socket H provided with bits or helical threads for imparting the incipient rotary motion to the projectile, as and for the purpose specified.

CH. DE DARTEIN. [L. S.]
JULES DE DARTEIN. [L. S.]

Witnesses:
J. U. ZUST,
J. VOULAIN.

(32)