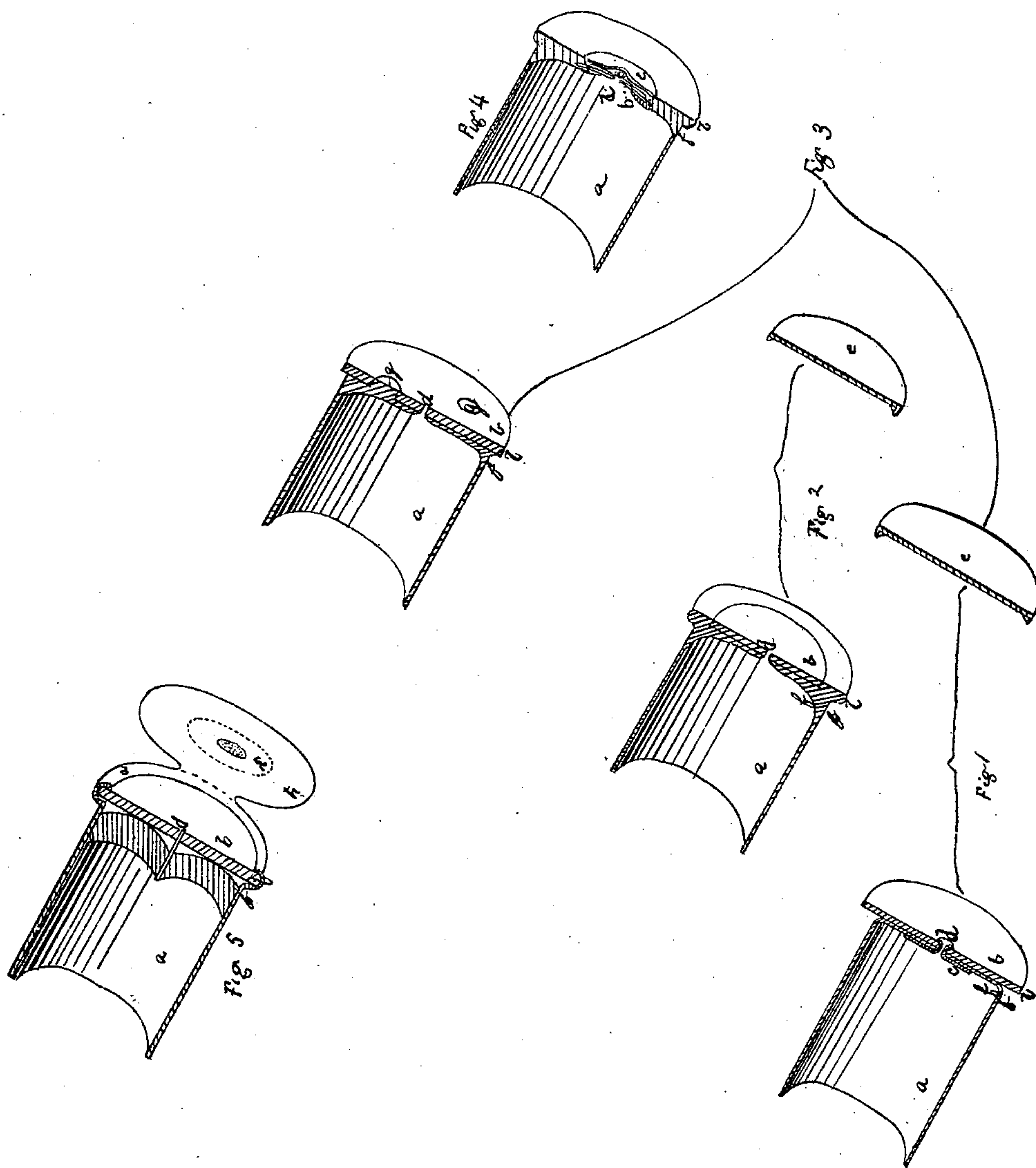


G. W. MORSE.
Cartridge-Case.

No. 15,996

Patented Oct. 28, 1856.



UNITED STATES PATENT OFFICE.

GEORGE W. MORSE, OF BATON ROUGE, LOUISIANA.

IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 15,996, dated October 28, 1856.

To all whom it may concern :

Be it known that I, GEORGE W. MORSE, of Baton Rouge, Louisiana, have invented a new and useful breech and prime-sealing (capable of being readily reprimed) and automatically-retractible cartridge shell or case for breech-loading fire-arms or cannon, light enough for transportation, yet strong enough to resist the blow of the hammer; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification, and lettered to correspond therewith, similar letters referring to similar parts in the several figures.

The nature of my invention consists in providing a soft-metal cartridge-case with a priming apparatus, whereby I seal the breech and vent of a breech-loading gun at firing as effectually as if the breech were solid metal around and back of the bore, leaving no escape for gas except at the muzzle. My cartridge-case is also capable of being automatically withdrawn, whether fired or not fired, and is so constructed that sufficient resistance is made to the blow of the hammer so as always to effect ignition if the primer does not fail, and if this does fail, it can be readily renewed or replaced. My cartridge-case is also capable of being practically useful for breech-loading cannon as well as small-arms.

Figures 1, 2, 3, 4, and 5 are central and longitudinal sections, in isometrical perspective of the cartridge-case and prime-sealers.

a is the cylindrical part of the shell; *f*, the expansible portion of the after part, and made of sufficient substance not to burst and leak at the breech-joint; *l*, the unchangeable part for automatic retraction; *b*, the outer part of the after part of the shell, being a head-piece of hard material, affording the unchangeable part, as at *l*, in some instances, or set in the soft material as in Fig. 2. *c* is a copper eyelet, by which a thin cylinder may be attached to the hard head-piece *b*, as in Fig. 1, the substance at *f* being furnished by a leaden ring or a wad, as in Fig. 5. *d* is the touch-hole. In Fig. 5 the cylinder *a* is made to clasp the piece *b*; but the reverse of this may be used, the piece *b* being capped to receive the cylinder *a*. In Fig. 3 the soft material is attached to the hard material by being forced

through holes *g* in the piece *b*. In Fig. 4 the soft material is cast around the hard material, consisting of one or more pieces of tin. In Fig. 4 the primer is shown in position, with the priming between it and the hard material *b*, the copper disk *e* being larger in diameter than the percussion-pin driven against it by the hammer, and the edge of the disk having a rim to fasten it to the soft material, so that if one primer fail another can be set in the same place and fixed there. *e*, Fig. 2, has the same characteristics, and *e*, Fig. 1, is made to clasp the head-piece *b* when *b* forms the part for automatic retraction. Fig. 5 shows the copper disk *k*, made to adhere to the outer side of a disk, *h*, of paper, of the size of *b*. On the inner side of *h* the priming *i* is fixed, and the disk *h* is pasted or glued to *a*, where it clasps the piece *b*. This method may be used with all the other figures.

When the gun is fired the part *f* swells out and seals the breech-joint; the part *b* resists the hammer-blow; the disk *e* or *k*, together with the after part of the cartridge-case, is driven back against the breech-piece, and, being broader than the percussion-pin, or the aperture for the passage of the pin through the sliding breech-piece, seals around it, so that the more forcibly the cartridge recoils the more securely is the vent sealed, there being no vent-hole through the copper disk. Finally, the part *l* remains unchanged, whether the cartridge be fired or not fired, and allows the cartridge-case to be automatically withdrawn from the gun. If the primer fail to fire, another can readily replace the one failing.

Having thus fully, clearly, and exactly described and represented the nature and scope of my invention, I would state that I am aware that a metallic cartridge-holder of elastic metal has been invented and used for preventing the escape of gas through the joints of breech-loading guns; but in this case the gas was found to escape at the vent, and also between the case and the bore of the gun.

I am also aware that a cartridge has been made so as to contain the powder in the cavity of the projectile, and to have the powder covered by a cylindrical cap of metal, which contained the percussion priming, and fitted over the cylindrical part of the projectile, while a small orifice in this cap permitted the

ignition of the percussion priming through it; but in this case the gas would also escape through that orifice.

I am also aware that percussion-caps have been made with percussion-powder confined between a disk of hard metal, with a central orifice therein, and the copper covering which constitutes the outer shell of the cap. Therefore, I do not claim any of these features in themselves; but

What I do claim, and desire to secure by Letters Patent, is—

The combination and arrangement of the cartridge-case, as constructed, with the priming apparatus, as constructed, or their equivalents, whereby I effect the entire exclusion

of any and all escape of the gas produced by the combustion of the powder of the cartridge and priming, except by the one channel—the bore of the barrel of the gun—the breech-joints and priming-vent being thereby so effectually sealed and closed that no air can escape at these parts of the gun after the charge is fired until the cartridge-case is withdrawn from the bore, although air blown in at the muzzle before firing the charge might escape through these joints, as it would in the cases above referred to.

GEO. W. MORSE.

Attest:

THOS. B. CLINTON,
GILBERT B. TOWLES.