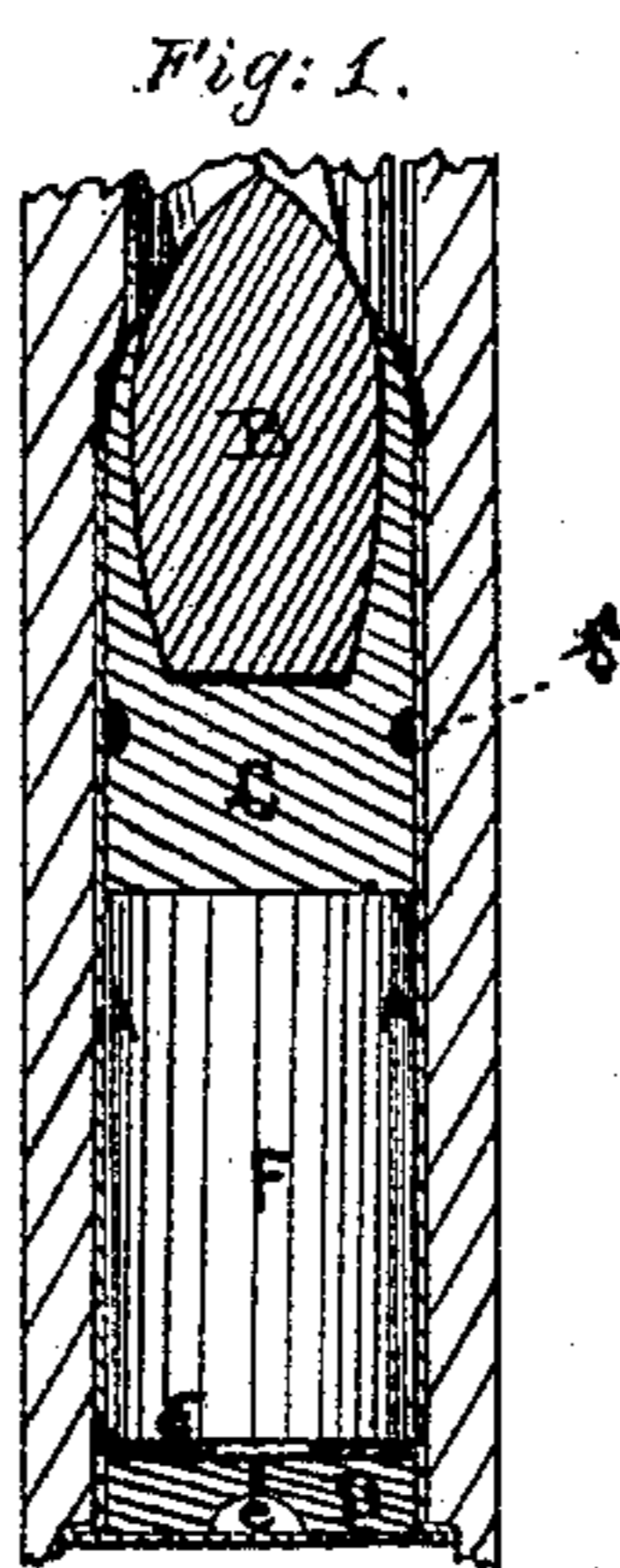


W. W. HUBBELL.

Improvement in Cartridges.

No. 126,058.

Patented April 23, 1872.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM W. HUBBELL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CARTRIDGES.

Specification forming part of Letters Patent No. 126,058, dated April 23, 1872.

### SPECIFICATION.

I, WILLIAM W. HUBBELL, of Philadelphia, in the State of Pennsylvania, have invented an Improved Breech-Loading Metallic Cartridge, of which the following is a specification:

My invention relates, first, to an improved cartridge for infantry arms, constructed of a metallic case larger than the bore of the gun in which it is to be used; an elongated flat-based leaden bullet made smaller than the case, solid and smooth from end to end, and made rearwardly tapering, so that its center of gravity shall be in front of the middle of its major axis, and so that it shall freely leave its carrier; and a wad or carrier of papier-maché made in one piece, with a flat base, a solid butt to fit closely in the case, and a forward extension to embrace the bullet from its base forward to the point of its larger diameter; the object of this part of my invention being to obtain fixed ammunition for breech-loading rifles, with which an elongated leaden bullet, balanced to go "head on" and made smooth to present the least resistance to the air, may be fired from a rifled barrel and acquire proper axial rotation therefrom without contact with said barrel and without possible check or retardation from an adhesion thereto of the wad or carrier employed to produce this result, so that the most approved form of a bullet may be fired from a breech-loading rifle without leading the rifle or breaking or marring the smooth surface of the bullet, and consequently be impelled from the gun with unchecked momentum, and thereby obtain the greatest possible range and accuracy of flight.

In the accompanying drawing, Figure 1 is a longitudinal central section of my improved metallic cartridge placed in the chamber of a breech-loading rifle.

A is a metallic cartridge-case or shell of any approved construction, but of an internal diameter exceeding that of the lands in the bore of the gun with which it is to be used. B is a lead bullet, made smooth, and free from ribs, rings, or grooves, and which is elongated, pointed in front, of a length about two and one-fourth times its diameter, and of an extreme diameter slightly less than the diameter of the lands in the bore of the

gun from which it is to be fired. It is enlarged about or in front of its longitudinal center and tapers rearwardly, so as to diminish in size from center to base about one-tenth of an inch, its base being flat or nearly so. C is a carrier formed in one piece, of papier-maché, of a solid cylindrical base of a length about equal to its diameter, and which terminates forward in a recess formed to fit upon and clasp the outer smooth tapering rear portion of the bullet B. By this form or construction of the carrier, in connection with the flat base of the bullet, the carrier while in the gun will, under the influence of the explosion of the charge, force and carry the bullet forward without swaging up on to it and without being so violently tightened thereon by the great power of the discharge as would prevent its ultimate easy release therefrom at the muzzle of the gun. This carrier is made of such diameter as to fit closely in the metallic case A, and, being about equal in diameter to the diameter of the grooves of the gun, will, when driven from the cartridge into the bore, be compressed to fit accurately into the grooves, and while thus compressed will tighten on the bullet sufficiently to give it the axial rotation derived from the twist of the grooves in the gun. When the bullet and carrier leave the muzzle of the gun, the carrier, being immediately relieved from its compression, is loosened from the bullet, which, because of its superior weight and momentum, and in view of the taper of its sides and their smoothness, will readily leave the carrier and proceed in perfect symmetrical smoothness of form in its flight. The smoothness of form of the bullet being thus retained, its axial rotation is not retarded by the air, as would be the case if it had lugs, or ribs, or rings, and being without cavities or shoulders, but smooth, solid, heavy, and of the least practical comparative resistance as compared with its weight, it flies forward with free rotation, great accuracy, and great range. The carrier C may be grooved circumferentially at b to receive lubricating material. It is secured within the cartridge by pinching in very slightly the front edge of the latter.

I claim as my invention—

The within-described improved fixed am-

munition for breech-loading infantry arms, consisting of an enlarged metallic case containing a charge of powder, an elongated solid and flat-based paper-carrier fitting closely within said case, and carrying a smooth, solid, elongated, rearwardly-tapered, flat-based, sub-caliber, leaden bullet, held and

partially inclosed by the front end of the said carrier, all substantially as herein set forth.

WM. W. HUBBELL.

Witnesses:

EDM. F. BROWN,

H. H. YOUNG.