

A. WRATZKE.
CARTRIDGE.

APPLICATION FILED MAY 12, 1908.

911,796.

Patented Feb. 9, 1909.

Fig. 1.

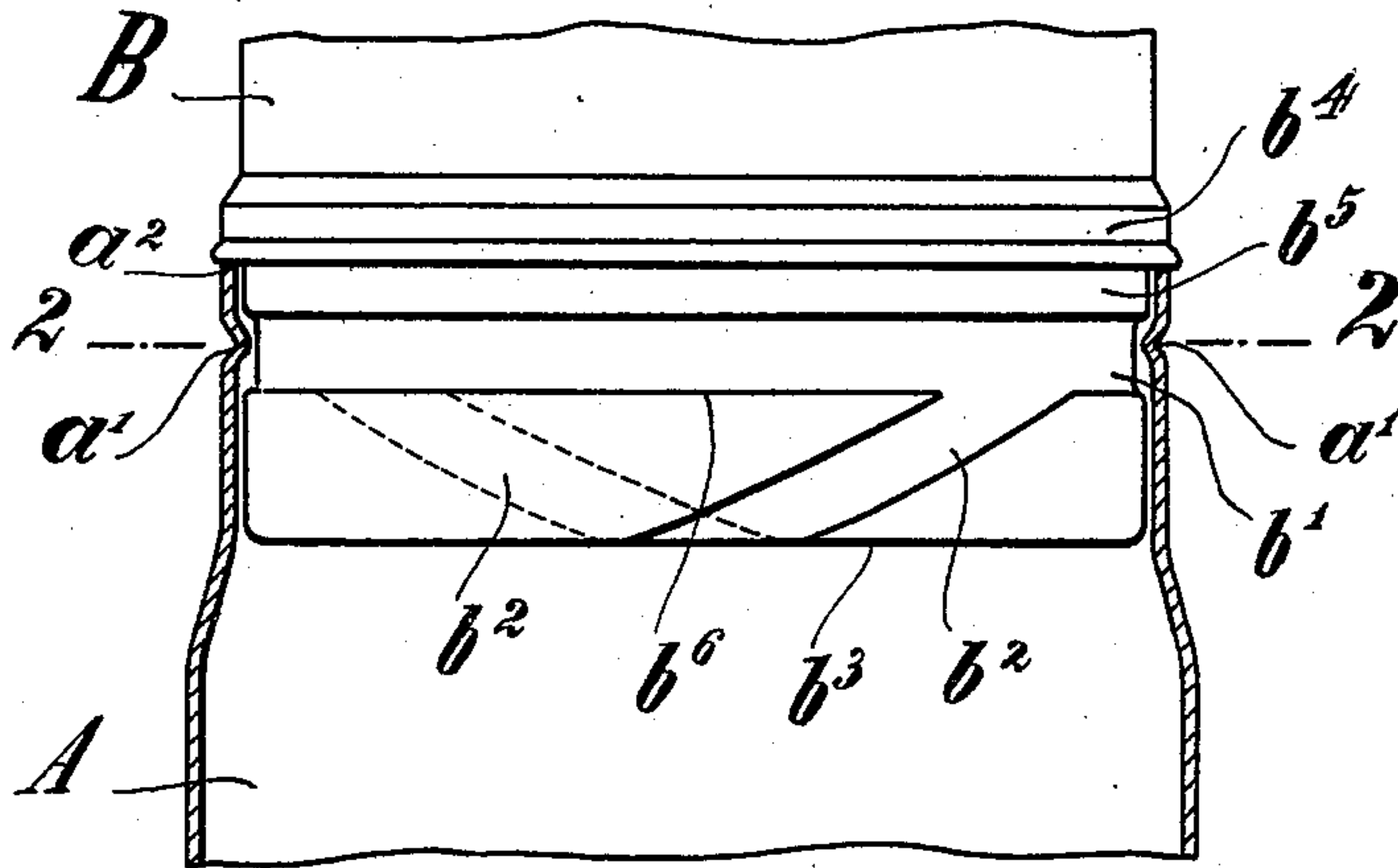
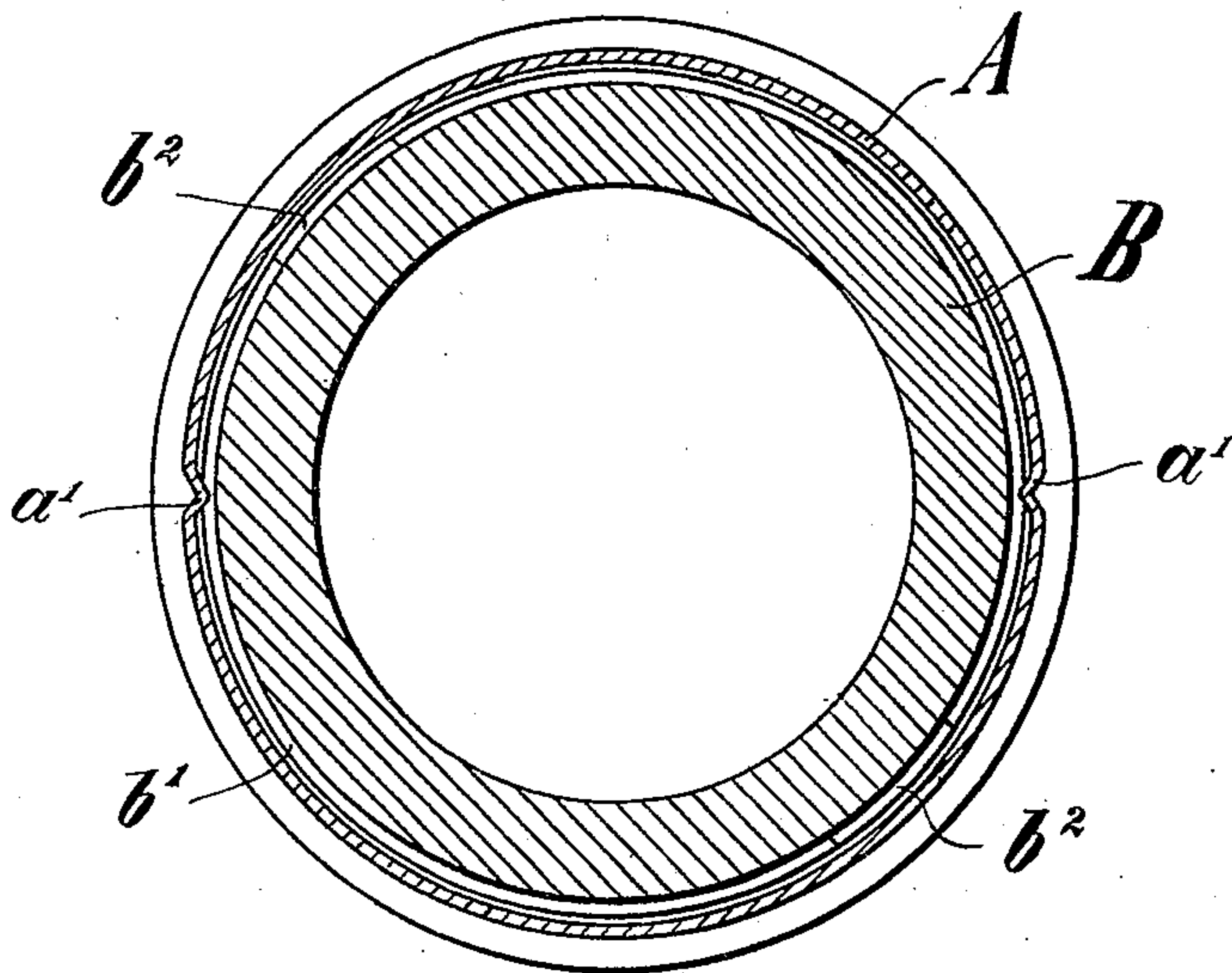


Fig. 2.



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CARTRIDGE.

No. 911,796.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALFRED WRATZKE, a subject of the Emperor of Germany, and a resident of Essen-on-the-Ruhr, Germany, have invented certain new and useful Improvements in Cartridges, of which the following is a specification.

The present invention relates to cartridges in which the projectile and cartridge shell are provided, the one with a projection, and the other with a groove, for the purpose of producing a readily releasable bayonet joint connection between these parts. In the transportation of this kind of cartridges, in ammunition wagons, the elasticity of the packing material on the one hand, and the readily releasable connection between the projectile and the cartridge shell, on the other hand, makes it impracticable, even with the most careful packing, to prevent relative rotation and longitudinal displacement of the two parts. In consequence of this, the use of the hitherto known bayonet joint connections between the projectiles and cartridge shells, results in the destruction, after a short time, of that part of the joint carried by the cartridge shell, by the part of the joint carried by the projectile, owing to the difference in hardness between the materials of the projectile and cartridge shell, so that when the cartridge is withdrawn from the packing, the cartridge shell separates from the projectile.

The subject of the present invention consists in a cartridge of the described kind, in which a destruction of the means of connection cannot take place during transportation.

One illustrative embodiment of the invention is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the parts with which the invention is concerned, with the cartridge shell in section, and Fig. 2 is a section on the line 2—2, Fig. 1, seen from above.

That portion of the projectile B which stands in engagement with the cartridge shell A, is provided with an annular groove b^1 , extending with symmetrical breadth around the entire projectile body. Opening into this groove, at two diametrically opposite points, and inclined thereto, are two grooves b^2 , which extend from the annular groove to the border of the base b^3 . The

angle included between the grooves b^2 and the annular groove, is essentially less than the angle of slipping. The cartridge shell is provided at diametrically opposite points with two inwardly extending projections (deflections) a^1 , which stand at such distance from the edge a^2 of the cartridge shell that when the sabot b^4 of the projectile, rests upon the edge a^2 of the cartridge shell, space still remains between the projection a^1 and the walls b^5 b^6 of the annular groove b^1 .

In consequence of the space left between the wall b^5 of the annular groove and the projections a^1 , the wall b^5 cannot under any circumstances impinge the projections a^1 , since the sabot b^4 prevents further telescoping of the projectile and cartridge shell, and thus the conditions are preserved. The space between the walls b^6 of the annular groove and the projections a^1 should be so determined that impact of the projections against this wall is also prevented, with any relative movement that can result between the projectile and cartridge shell, during transportation, in consequence of the elasticity of the packing material and shocks imparted. The greatest extent of such movements is easily ascertainable for different packing materials. Furthermore, since the annular groove surrounding the body of the projectile permits of any desired relative rotation of the two parts of the cartridge, without subjecting the projections a^1 to any resistance, it follows that every possible influence for destruction of the cartridge-joint during transportation is done away with.

The inclined position of the admission grooves b^2 relatively to the annular groove secures the advantage of insuring retracting connection between the two parts of the cartridge, even though the projections a^1 should happen to stand opposite the mouths of the entrance grooves at the time of withdrawal of the cartridge from the packing.

It is to be noted that cartridges are already known in which the projectile and the cartridge shell are connected together by means of an annular groove arranged on one of these two parts and going round the part, and of projections provided on the other part of the cartridge. These known cartridges, however, do not possess any bayonet-joint like connection between the projectile and the cartridge shell; the cartridge shells on the contrary, are provided

on their forward end with longitudinal slots which effect that the shell is pressed outwardly in a spring like manner when introducing the projectile.

5 Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A cartridge having a bayonet joint connection between the projectile and the
10 cartridge shell comprising projections on one of the parts and grooves on the other part; said cartridge shell abutting against the sabot of the projectile in such manner as to prevent contact between the projections
15 and the walls of the grooves.

2. A cartridge having a bayonet joint connection between the projectile and the cartridge shell comprising a groove formed on one of the parts and a projection formed
20 on the other of the parts; the groove having a transverse dimension sufficient to permit the upper edge of the shell to abut against the sabot of the projectile without contact between the projectile and the walls of the
25 groove when the projectile is fully inserted into the shell.

3. A cartridge having a bayonet joint connection between the projectile and the cartridge shell comprising a groove on one
30 of the parts and a projection on the other of the parts and a shoulder on one of the parts which engages the other of said parts to limit the introduction of the projectile into the shell; the transverse dimension of the
35 bayonet joint groove being such as to prevent contact of the projection with the side walls thereof.

4. In a cartridge, a bayonet joint connection between the projectile and the cartridge

shell and independent means limiting the
40 introduction of the projectile into the cartridge shell; the circumferential and transverse dimensions of the groove of the bayonet joint being such as to permit the engagement of the limiting means so as to prevent the projection from contacting with the
45 walls of the groove.

5. In a cartridge the combination of a projectile having a sabot, the cartridge shell abutting against the sabot to limit the introduction of the projectile into the cartridge
50 shell, and a bayonet joint connection between the parts comprising a groove formed in one part and a projection formed on the other part, extending into the groove at a point spaced from the walls of the groove when
55 the shell abuts against the sabot.

6. In a cartridge having a bayonet joint connection between the projectile and the cartridge shell whereby relative rotation between the cartridge and the shell without
60 contact of the projection of the bayonet joint with the groove thereof is permitted; the bayonet joint groove having its inlet portion inclined to the locking portion of the groove so that retracting relation between the shell and the projectile is maintained, notwithstanding relative rotation
65 between the parts, which brings the projection of the joint opposite the mouth of the inlet groove.
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The foregoing specification signed at Dusseldorf, Germany, this 16th day of April, 1908.

ALFRED WRATZKE.

In presence of—

PETER LIEBER,

WILHELM FLASCHE.