A. WRATZKE.

CARTOUCHE CHARGE FOR GUNS.

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923,922. **Patented June 8, 1909.**

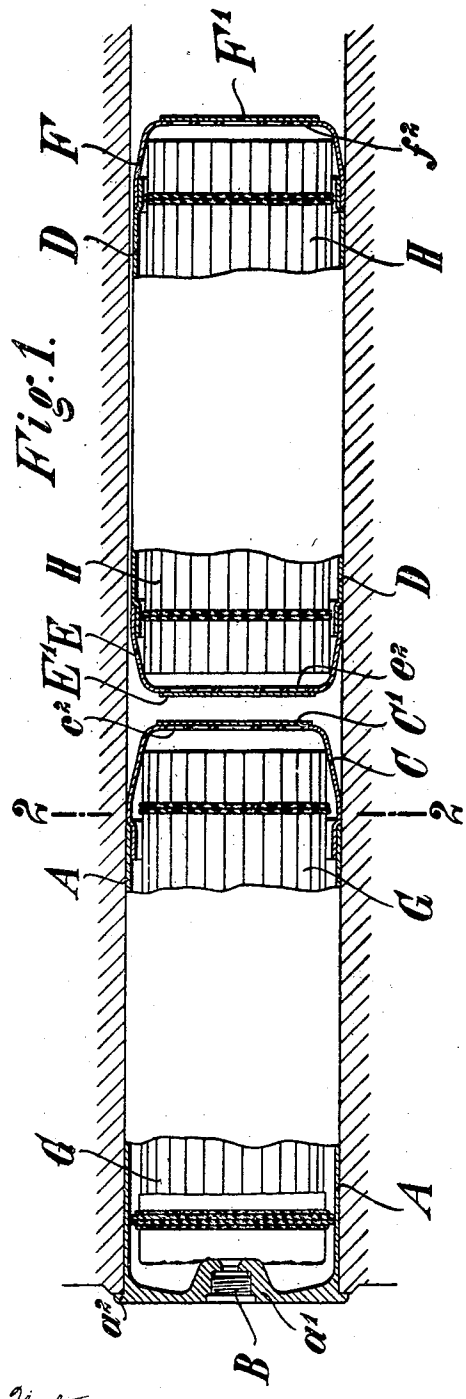


Fig. 1.

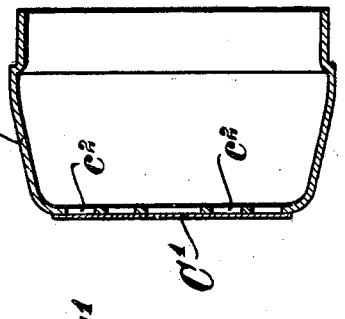


Fig. 3.

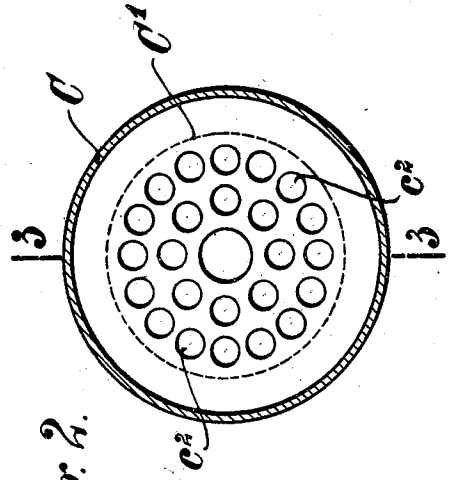


Fig. 2.

Witnesses
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CARTOUCHE CHARGE FOR GUNS.

No. 923,922. Specification of Letters Patent. Patented June 8, 1909.

Application filed January 28, 1907. Serial No. 354,544.

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-Rüttenscheid, Germany, have invented certain new and useful Improvements in Cartouche Charges for Guns, of which the following is a specification.

The present invention relates to a cartouche charge which is primarily intended for guns of large caliber.

One embodiment of the invention is shown in the accompanying drawing by way of example.

Figure 1 is a side view, partly in section, of the cartouche charge, the gun barrel being shown in section. Fig. 2 shows on an enlarged scale, a detail in section on line 2—2, Fig. 1, and looking from the left, and Fig. 3 is a section on line 3—3, Fig. 2.

The cartouche charge consists of two separate cartouches having driving charges G and H consisting of tubular powder. One of the cartouches (the one shown to the left in Fig. 1) is provided with an obturating metallic shell A which has its bottom a' provided with a priming screw B and a flange a^2 adapted to be engaged by the ejector. The shell A is closed by a metal cover which consists of a sheet metal disk C′ and a cap shaped part C engaging the shell A (see also Figs. 2 and 3). The front wall of the cap C is provided with a plurality of perforations c^2 which are covered by the disk C′ soldered around its periphery to the cap C. The cap C and the disk C′ are preferably made from brass. In order to impart sufficient rigidity to the cap, its walls are about 0.5 to 1 mm. thick while the disk C′ is preferably of a thickness of merely 0.1 mm. The object of this formation of the cover for the shell A will be further explained in the following. The other cartouche, which may be called the "front cartouche", is also provided with a metallic shell having its mantle portion D formed preferably from tin plate of a thickness of about 0.1 to 0.3 mm. The end portions E E′ and F F′ of the front cartouche are approximately formed in the same manner as the cover C C′ of the shell A. If the seam between the shell A and the cover C C′ and the seams between the mantle D and the end portions E E′, F F′ are made tight by means of solder, shellac or the like, the driving charges G, H are protected against moisture. On the other hand, the arrangement of the driving charges in closed metal shells prevents the driving charges on the loading of the gun becoming ignited by the powder gases resulting from the preceding discharge (so-called back-flame) or by smoldering residue. In addition to these advantages, which the present invention has over the cartouche charges consisting of bag-cartouches, the invention provides a means for obtaining, for any gun caliber in question, an ammunition which makes the obturation by the breech mechanism (plastic packing) superfluous and which further can be easily made and at a small cost.

When the firing mechanism of the gun is operated to fire the gun, the driving charge G is ignited by the priming screw B, and its flame penetrates the disks C′ E′ so that the driving charge H becomes ignited without previously being deformed by the pressure effected by the gases of the driving charge G. Such a deformation, which among other things might result in a too rapid burning or even in a detonation of the driving charge H, would be capable of taking place if the cover of the shell A and the end portion of the front cartouche presented a greater resistance to the pressure of the powder gases, than is actually the case due to the weakening of these parts by means of the perforations c^2, e^2. When the driving charges burn, a disintegration and partial burning of the cover C C′ and also of the mantle and the end portions of the front cartouche, takes place, the residue being blown from the gun barrel on firing. By also having the end portion F F′ of the front cartouche of the formation shown, it is unnecessary to observe which end of the front cartouche is first inserted on loading.

Without changing the nature of the invention, two or more front cartouches may be used instead of one, if the weight of the driving charge requires it. Moreover, the length of the shell A, relatively to the total charge, may be more or less than in the embodiment shown. It might, for instance, be merely of such length that while insuring effective obturation it merely holds a charge sufficient to secure ignition of the remaining or main body of the driving charge.

Having thus described my invention, what

I claim and desire to secure by Letters Patent is:

1. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop.

2. A cartouche charge for guns comprising a plurality of cartouches having separate metallic inclosing envelops with those ends of the envelops which are contiguous in the gun, structurally weakened.

3. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop, and the inclosing envelop of the rearmost subcharge being constructed in the form of an obturating shell.

4. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop constructed with one end closure weakened at points.

5. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop having an end closure constructed with perforations extending partially through said end closure.

6. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop, those ends of the envelops which are contiguous in the gun being partially weakened.

7. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop the inclosing envelop of the rearmost subcharge being constructed as an obturating shell and at one end with weakened portions and the other envelops being constructed at both ends with weakened portions.

8. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop, and the envelops of the foremost subcharges being made from tin-plate of such a small thickness that it is burned together with the driving charge.

9. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop having an end closure consisting of a perforated cap and a disk closing the perforations in the cap.

10. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop, the rearmost subcharge having its envelop provided with a front end closure weakened at points, and the adjacent subcharge having its envelop provided with a rear end closure weakened at points.

11. A cartouche charge for guns comprising a plurality of subcharges, each subcharge being contained in a separate metallic inclosing envelop, the rearmost subcharge having its inclosing envelop constructed in the form of an obturating shell, and the adjacent subcharge having its envelop provided with an end closure weakened at points.

The foregoing specification signed at Dusseldorf, Germany, this sixteenth day of January, 1907.

ALFRED WRATZKE.

In presence of—
ALFRED POHLMEYER,
M. ENGELS.