Patented Mar. 29, 1932 1,851,398

UNITED STATES PATENT OFFICE

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PRIMING MIXTURE

No Drawing. Application filed June 21, 1930. Serial No. 462,939.

This invention relates to improvements in priming mixtures for small arms ammunition and more particularly to a non-corrosive priming mixture.

In my copending application, Serial No. 307,555 filed September 21, 1928, I have disclosed and claimed a priming mixture comprising basic lead nitrate, alone or in combination with barium nitrate as an oxidizing agent. The specific examples disclosed in said application relate to rim fire mixtures comprising the above oxidizer or oxidizers, a detonator, a fuel and an abrasive, such as ground glass.

The present invention relates to a priming mixture particularly adapted for shot shells in which basic lead nitrate is used in combination with barium nitrate as the oxidizing agent, but in substantially smaller proportion than is disclosed in the specific examples of my copending application. In addition, the percentage of mercury fulminate is increased and a fuel mixture preferably consisting of antimony sulphide, calcium silicide and lead sulphocyanate is employed.

A suitable priming mixture for shot shell use may be formed by mixing the ingredients in the following proportions:

	Per cent
Fulminate of mercury (with 16% of water) substantially	45
Basic lead nitrate, substantially	8
Barium nitrate, substantially	30
Antimony sulphide, substantially	5.0
Calcium silicide, substantially	4.0
Lead sulphocyanate, substantially	8

The proportions of these ingredients may, of course, be varied, depending upon the commercial strength of the ingredients and to meet the requirements of various uses of the mixture.

In mixing the ingredients I first weigh out, sieve and mix dry on paper the oxidizers and fuel. A solution of gum is then added and worked in briefly by hand. The wet fulminate is then weighed out and added and the whole mixed in the usual manner by machine or by hand, or by both. The priming mixture may be charged into primer cups in the usual manner by forming pellets of the proper size in a perforated plate and then charging the pellets into priming cups contained in the perforations in a second plate adapted to be brought into alignment with the perforations of the first plate. After the individual pellets have been charged into the priming cups, the cups may be submitted to the usual pressure and they are then ready for insertion in the cartridge shells. Priming cups are inserted in the shells and the shells may then be loaded with powder and bullets in the usual manner.

The herein disclosed priming mixture is particularly suitable for use in shot shells although the modification of the proportions for use in center fire primers is within the powers of one skilled in the art.

I claim:

1. A non-corrosive priming mixture consisting essentially of mercury fulminate, basic lead nitrate, barium nitrate, antimony sulphide, calcium silicide and lead sulphocyanate.

2. A priming mixture consisting essentially of substantially 45 percent of mercury fulminate, substantially 8 percent of basic lead nitrate, substantially 30 percent barium nitrate, substantially 5 percent antimony sulphide, substantially 4 percent calcium silicide and substantially 8 percent lead sulphocyanate.

In testimony whereof I affix my signature.

JOSEPH D. McNUTT.