UNITED STATES PATENT OFFICE.

JOSEF SCHULHOF, OF VIENNA, AUSTRIA-HUNGARY.

EXPLOSIVE PREPARATION MADE FROM GUN-COTTON.

SPECIFICATION forming part of Letters Patent No. 304,361, dated September 2, 1884.

Application filed May 21, 1883. (No specimens.)

To all whom it may concern:

Be it known that I, JOSEF SCHULHOF, a citizen of the Austro-Hungarian Empire, residing at Vienna, Austria-Hungary, have invented certain new and useful Improvements in a New Explosive Preparation, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of the present invention is a new explosive preparation, which, when ignited, develops considerable explosive force, burns completely, almost without residue, without smoke, can be produced easily and without danger, has no hygroscopic qualities, and cannot be ignited by tearing, jar, or concussion, but only by very high heat, over 150°, flame or sparks. This preparation can be produced from any cellulose, but most advantageously from gun-cotton. I shall in the following restrict myself to the description of the preparation of this article from cotton, as those skilled in the art will thereby be enabled to prepare any other kind of cellulose for the same purpose. The cotton is in the well-known manner transformed into pure, dry gun-cotton. In order to deprive it of its hygroscopic properties, it is placed into molten fat, by preference tallow or mutton fat, and is left therein until the fibers are thoroughly impregnated. Then the impregnated cotton is taken out and the superfluous fat removed from it by washing with bisulphide of carbon or benzine and by pressure. In this condition the preparation forms a gun and blasting medium, which is very effective, is proof against moisture and atmospheric influence, and can only be ignited by flames, sparks, incandescent bodies, or by very high temperature—150° centigrade.

For increasing the efficiency, it is desirable to compress the impregnated gun-cotton, which may be done in presses at any pressure. Care must be taken, however, not to put on the full pressure at once, but gradually, so as not to heat the cotton above 150° centigrade.

The cotton may be spun and made into cords or into a hose filled by threads of the same material—that is, greased or coated gun-cotton; but ordinary cotton may also be spun, then changed into gun-cotton, and afterward impregnated with fat or its equivalent in the above-described manner.

To protect the impregnated gun-cotton still more against moisture and atmospheric influence, it may either in the compressed state or when spun and twisted be coated by collodium, for which purpose it is immersed once or several times in a mixture of collodion and bisulphide of carbon or benzine and dried. It is evident that this material may be applied to various uses not herein set forth.

I claim—

1. A material for guns and for blasting, consisting of gun-cotton impregnated with fat, substantially as shown and described.

2. Gun-cotton impregnated with fat, compressed and coated with collodium, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses this 11th day of December, 1882.

JOSEF SCHULHOF.

Witnesses:
WILLIAM HÜNING,
JAMES RILEY WEAVER.