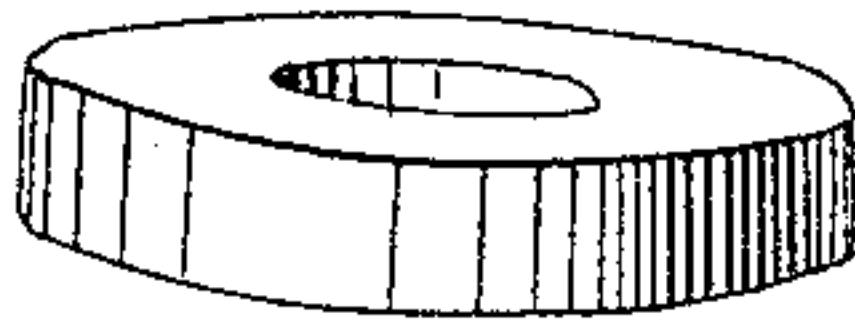


O. H. BANDISCH.  
EXPLOSIVE COMPOUND.

No. 89,910.

Patented May 11, 1869.



Witnesses,  
*Gustave Dietrich*  
*Anna Morgan*

Inventor  
*O. H. Bandisch*  
per *Munnell*  
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# United States Patent Office.

OTTO H. BANDISCH, OF BERLIN, PRUSSIA, ASSIGNOR TO FREDERICK VOLCKMANN, OF HOBOKEN, NEW JERSEY.

*Letters Patent No. 89,910, dated May 11, 1869.*

## IMPROVED EXPLOSIVE COMPOUND.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, OTTO H. BANDISCH, of Berlin, Prussia, have invented a new and improved Explosive Compound; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a perspective view, on an enlarged scale, of a blank cartridge, made of my improved compound.

This invention relates to a new explosive compound, which is to be used in fire-arms of all kinds, and which has the object of reducing the size of a cartridge.

It may be employed either alone, or in conjunction with ordinary gunpowder.

In the latter case, it forms the base of the cartridge in place of the pasteboard bottom heretofore employed.

My compound can be very materially compressed, so as to contain a large quantity of explosive matter in a very small space. It is not affected by friction of any kind, but will explode only if ignited, or when heated to about 370° Fahrenheit. It is not affected by atmospheric influence, and can be put into water for twenty-four hours, without losing its explosive quality. It can be pressed into any desired form to adapt it to any kind of fire-arm, and will, when exploded, leave no residue.

It is prepared as follows:

The gunpowder, for which Letters Patent, No. 38,789, were granted to J. F. E. Schultze, of Potsdam, Prussia, and which consists of woody fibre, prepared in a granulated form, with salts, containing oxygen and nitrogen, is subjected to a bath of pure alcohol and ether, in suitable air-tight glass or brass vessels, in which it is left for from fifteen to thirty minutes. The proportions of alcohol to ether are as one to five.

The liquid is then drawn off, and can be used over again if so much is restored to it as was absorbed by the powder.

The powder is allowed to dry in a temperature of from 70° to 80° Fahrenheit.

The mixture will, as it dries, be considerably contracted, and is, after the lapse of about eight or ten hours, dried so far that its weight exceeds by one-tenth that of the powder used.

The damp mixture is now subjected to pressure, and is moulded or pressed into any suitable form or shape, according to the arm for which it is intended.

After pressure, the compound is left to dry completely in the above temperature.

The shape which I prefer to impart to the charge is that of an annular plate. This does not only serve as a convenient base for the powder-cartridge, if any powder is used, but serves also to retain the fulminate in its centre, especially if it is to be adapted to needle-guns.

By varying the proportions of ether and alcohol, different results are obtained, that may be found valuable for different kinds of arms.

The ether should be chemically pure, while the alcohol should have at least ninety-six degrees.

The great objection to the aforesaid powder of Schultze is, that it is too hygroscopic, imbibing too much moisture from the atmosphere, so that it will have to be dried just before it is to be used.

By my process, this objection is removed, and an explosive compound is produced, which is not in the least affected by moisture, or by the atmosphere.

The above-described process may be considerably varied, especially if carried on extensively. Thus, for example, the moist compound may be rolled out into sheets, and then cut and stamped, or otherwise shaped.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The explosive compound herein described.

The above specification of my invention signed by me, this 15th day of October, 1868.

Witnesses:

F. F. O. SCHWARR,  
CARL MAEDER.

O. H. BANDISCH.