

UNITED STATES PATENT OFFICE.

LAMMOT DU PONT AND EUGINE DU PONT, OF NEW CASTLE COUNTY, DEL.

IMPROVEMENT IN THE MANUFACTURE OF GUNPOWDER.

Specification forming part of Letters Patent No. **133,522**, dated December 3, 1872.

To all whom it may concern:

Be it known that we, LAMMOT DU PONT and EUGINE DU PONT, both of New Castle county, in the State of Delaware, have invented certain new and useful Improvements in the Manufacture of Gunpowder; and that the following is a full, clear, and exact description of the same.

The common way of manufacturing gunpowder is first to weigh out the proper proportions of the ingredients, pulverize them, mix, and incorporate them with a small percentage of water. This moist powder is then spread on plates in layers and submitted to pressure, which compresses it into cakes. These cakes are broken up by passing them through between rollers into irregular grains or pieces, varying in shape and size from the coarsest to the finest dust. This broken powder is then assorted into different sizes by sifting it through sieves of different mesh, making irregular-shaped grains, as no two are of exactly the same shape. This powder so made answers for many purposes; but for large cannon the irregularities of the grains produce irregular results. To avoid this irregularity is the purpose and object of our invention.

We are aware that powder has been made of uniform sizes by pressing each grain separately in a mold. In such process it would be impossible to weigh each and every of these minute charges, and consequently the pellets are of varying density, so that more is lost in this irregularity of density than is gained by uniformity of size of the grains.

Our invention consists in the compression of the grains in sheets, which are afterward broken up into pieces, by which means we attain uniformity of density and comparatively great regularity of size.

In making our powder we proceed in the same way as hereinabove stated as the usual way of making powder, up to the moistening of the powder. The damp or moistened powder we place between plates which have ribs raised upon them, which embed themselves by the pressure into the cakes, and cause the cakes to break in the weakest lines of fracture, making the whole of the cake into grains of uniform shapes, and all of which have been subjected to uniform pressure, and are of regular density. Of these shapes or forms we prefer those whose horizontal sections are of either a square or hexagon shape, but do not limit our invention to either of these forms.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

Compressing dampened powder in sheets between ribbed plates or other mechanical equivalent, for forming indented lines, by which the cake is broken up into uniform shapes or sizes, substantially as and for the purpose described.

LAMMOT DU PONT.
EUGINE DU PONT.

Witnesses:

IGNATIUS C. GRUBB,
VICTOR DESHER.