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United States Patent
Stephanoff**3,937,405**
February 10, 1976

Apparatus for mixing pulverizing and grinding black powder

Abstract

A system for making black powder comprising a jet mill into which potassium nitrate, carbon and sulfur, plus any other desired additive, are inserted, the particles being mixed, pulverized and ground in a vortex of gaseous fluid while the vortex is moved through a curvilinear path in the mill, the smaller, lighter particles being centrifugally separated from the larger heavier particles and then exhausted from the mill, the mill being constructed to decelerate the particles during initial mixture and to thereafter accelerate them through the curvilinear path, the system also including a second jet mill into which are introduced the particles exhausted from the first mill plus an additional coating material, the entire mixture being caused to tumble and roll slowly in the second mill to effect improved smoothing and coating.

Inventors: Stephanoff; Nicholas N. (Haverford, PA)**Assignee:** *Fluid Energy Processing and Equipment Company* (Hatfield, PA)**Family ID:** 27026859**Appl. No.:** 05/529,373**Filed:** December 4, 1974**Related U.S. Patent Documents**

| <u>Application Number</u> | <u>Filing Date</u> | <u>Patent Number</u> | <u>Issue Date</u> |
|---------------------------|--------------------|----------------------|-------------------|
| 425938 | Dec 18, 1973 | | |

Current U.S. Class: 241/39**Current CPC Class:** B01F 5/102 (20130101); B02C 19/063 (20130101); C06B 21/0008 (20130101)**Current International Class:** B02C 19/06 (20060101); B01F 5/00 (20060101); B01F 5/10 (20060101); C06B 21/00 (20060101); B02C 019/06 ()**Field of Search:** ;241/5,39,43**References Cited** [\[Referenced By\]](#)

