

CPC**COOPERATIVE PATENT CLASSIFICATION****F42D**

BLASTING (fuses, e.g. fuse cords, [C06C 5/00](#); {for obtaining fluid from wells [E21B 43/00](#); for mining or quarrying [E21C 37/00](#); for making tunnels or galleries [E21D 9/006](#)} ; cartridges [F42B 3/00](#))

F42D 1/00**Blasting methods or apparatus, e.g. loading or tamping**

F42D 1/02

- Arranging blasting cartridges to form an assembly (adaptation of blasting cartridges therefor [F42B 3/02](#))

F42D 1/04

- Arrangements for ignition ({ignition systems for shaped charge perforators [E21B 43/1185](#); ignition devices for seismic energy generators [G01V 1/06](#))}

F42D 1/041

- • {Tools for adapting cartridges for the mounting of detonators (Cartridges specially adapted for the mounting of detonators [F42B 3/26](#))}

F42D 1/042

- • {Logic explosive circuits, e.g. with explosive diodes}

F42D 1/043

- • {Connectors for detonating cords and ignition tubes, e.g. Nonel tubes (mounting of detonators in blasting cartridges [F42B 3/26](#))}

F42D 1/045

- • Arrangements for electric ignition (dynamo-electric generators [H02K](#))

F42D 1/05

- • • Electric circuits for blasting

F42D 1/055

- • • specially adapted for firing multiple charges with a time delay

F42D 1/06

- • Relative timing of multiple charges ({[F42D 1/043](#) and } [F42D 1/055](#) take precedence)

F42D 1/08

- Tamping methods; Methods for loading boreholes with explosives; Apparatus therefor

F42D 1/10

- • Feeding explosives in granular or slurry form; Feeding explosives by pneumatic or hydraulic pressure

F42D 1/12

- • Feeding tamping material by pneumatic or hydraulic pressure

F42D 1/14

- • Hand-operated tamping or loading

F42D 1/16

- • • Tamping tools

F42D 1/18

- • Plugs for boreholes

F42D 1/20

- • Tamping cartridges, i.e. cartridges containing tamping material (flexible or deformable blasting cartridges [F42B 3/087](#))

F42D 1/22

- • Methods for holding or positioning for blasting cartridges or tamping cartridges

F42D 1/24

- • characterised by the tamping material

F42D 1/26

- • • Tamping with foaming agents

F42D 1/28

- • • Tamping with gelling agents

F42D 3/00

Particular applications of blasting techniques {(explosive welding [B23K 20/08](#); explosive bolts or actuators [F42B 3/006](#); explosive valves [F16K 13/06](#); cutting devices actuated by explosion [B23D 15/145](#); pyrotechnical actuators [F15B 15/19](#); switching devices actuated by explosion [H01H 39/00](#))}

F42D 3/02

- for demolition of tall structures, e.g. chimney stacks

F42D 3/04

- for rock blasting

F42D 3/06

- for seismic purposes

F42D 5/00

Safety arrangements

F42D 5/02

- Locating undetonated charges

F42D 5/04

- Rendering explosive charges harmless, e.g. destroying ammunition ([F42B 39/14](#) and [F42B 39/20](#) take precedence } ; extracting primers, dismantling ammunition [F42B 33/04](#), [F42B 33/06](#); {chemical deactivating of explosives [C06B 21/0091](#)}); Rendering detonation of explosive charges harmless

F42D 5/045

- . Detonation-wave absorbing or damping means

F42D 5/05

- . . Blasting mats

F42D 5/055

- . Silencing means for blasting operations

F42D 5/06

- Unloading boreholes

F42D 99/00

Subject matter not provided for in other groups in this subclass