

CPC**COOPERATIVE PATENT CLASSIFICATION****H01T**

SPARK GAPS; OVERVOLTAGE ARRESTERS USING SPARK GAPS; SPARKING PLUGS; CORONA DEVICES; GENERATING IONS TO BE INTRODUCED INTO NON-ENCLOSED GASES ([working of metal by the action of a high concentration of electric current B23H](#) ; welding, e.g. arc welding, electron beam welding or electrolytic welding [B23K](#) ; gas-filled discharge tubes with solid cathode [H01J 17/00](#); electric arc lamps [H05B 31/00](#))

NOTE

In this subclass, the term "spark gaps" is used with the following meaning:

- enclosed or non-enclosed discharge device having cold electrodes and used exclusively to discharge a quantity of electrical energy in a small time duration.

Guidance heading:**H01T 1/00****Details of spark gaps**

- H01T 1/02 . Means for extinguishing arc
- H01T 1/04 . . using magnetic blow-out
- H01T 1/06 . . . with permanent magnet
- H01T 1/08 . . using flow of arc-extinguishing fluid
- H01T 1/10 . . . with extinguishing fluid evolved from solid material by heat of arc
- H01T 1/12 . Means structurally associated with spark gap for recording operation thereof
- H01T 1/14 . Means structurally associated with spark gap for protecting it against overload or for disconnecting it in case of failure ([H01T 1/15](#), [H01T 1/16](#), [H01T 1/18](#) take precedence)
- H01T 1/15 . for protection against excessive pressure
- H01T 1/16 . Series resistor structurally associated with spark gap
- H01T 1/18 . Electrolytic device structurally associated with spark gap
- H01T 1/20 . Means for starting arc or facilitating ignition of spark gap
- H01T 1/22 . . by the shape or the composition of the electrodes
- H01T 1/24 . Selection of materials for electrodes ([H01T 1/22](#) takes precedence)

H01T 2/00**Spark gaps comprising auxiliary triggering means** ([triggering circuits H01T 15/00](#))

- H01T 2/02 . comprising a trigger electrode or an auxiliary spark gap

H01T 4/00**Overvoltage arresters using spark gaps** ([H01T 2/00](#) takes precedence; overvoltage

protection circuits using spark gaps [H02H 9/06](#))

- [H01T 4/02](#) . Details (of spark gaps [H01T 1/00](#))
- [H01T 4/04](#) . Housings ([H01T 4/06](#) takes precedence)
- [H01T 4/06](#) . Mounting arrangements for a plurality of overvoltage arresters
- [H01T 4/08](#) . structurally associated with protected apparatus (with switches [H01H 9/14](#); with fuses [H01H 85/44](#))
- [H01T 4/10](#) . having a single gap or a plurality of gaps in parallel
- [H01T 4/12](#) . . hermetically sealed
- [H01T 4/14](#) . . Arcing horns ([associated with insulators H01B 17/46](#))
- [H01T 4/16](#) . having a plurality of gaps arranged in series
- [H01T 4/18](#) . . Arrangements for reducing height of stocked spark gaps
- [H01T 4/20](#) . . Arrangements for improving potential distribution

[H01T 7/00](#) Rotary spark gaps, i.e. devices having one or more rotating electrodes

[H01T 9/00](#) Spark gaps specially adapted for generating oscillations

[H01T 11/00](#) Spark gaps specially adapted as rectifiers

[H01T 13/00](#) Sparking plugs

- [H01T 13/02](#) . Details
- [H01T 13/04](#) . . Means providing electrical connection to sparking plug ([electric connections in general H01R](#))
- [H01T 13/05](#) . . . combined with interference suppressing or shielding means
- [H01T 13/06](#) . . Covers forming a part of the plug and protecting it against adverse environment
- [H01T 13/08](#) . . Mounting, fixing or sealing of sparking plugs, e.g. in combustion chamber
- [H01T 13/10](#) . . . by bayonet-type connection
- [H01T 13/12](#) . . Means on sparking plugs for facilitating engagement by tool or by hand
- [H01T 13/14](#) . . Means for self-cleaning
- [H01T 13/16](#) . . Means for dissipating heat
- [H01T 13/18](#) . . Means for heating, e.g. for drying
- [H01T 13/20](#) . characterised by features of the electrodes or insulation
- [H01T 13/22](#) . . having two or more electrodes embedded in insulation ([for two or more sparks H01T 13/46](#))
- [H01T 13/24](#) . . having movable electrodes ([H01T 13/28](#) takes precedence)
- [H01T 13/26](#) . . . for adjusting spark gap otherwise than by bending of electrode

- H01T 13/28 . . . having spherically shaped electrodes, e.g. ball-shaped
- H01T 13/30 mounted so as to permit free movement
- H01T 13/32 . . . characterised by features of the earthed electrode
- H01T 13/34 . . . characterised by the mounting of electrodes in insulation, e.g. by embedding
- H01T 13/36 . . . characterised by the joint between insulation and body, e.g. using cement
- H01T 13/38 . . . Selection of materials for insulation ([in general H01B 3/00](#))
- H01T 13/39 . . . Selection of materials for electrodes

- H01T 13/40 . . . structurally combined with other devices ([combined or associated with fuel injectors F02M 57/06](#); [structurally combined with other parts of internal-combustion engines F02P 13/00](#))
- H01T 13/41 . . . with interference suppressing or shielding means
- H01T 13/42 . . . with magnetic spark generators
- H01T 13/44 . . . with transformers, e.g. for high-frequency ignition

- H01T 13/46 . . . having two or more spark gaps
- H01T 13/462 {in series connection }
- H01T 13/465 {one spark gap being incorporated in the sparking plug }
- H01T 13/467 {in parallel connection }

- H01T 13/48 . . . having means for rendering sparks visible

- H01T 13/50 . . . having means for ionisation of gap ([H01T 13/52 takes precedence](#))

- H01T 13/52 . . . characterised by a discharge along a surface

- H01T 13/54 . . . having electrodes arranged in a partly-enclosed ignition chamber

- H01T 13/56 . . . characterised by having component parts which are easily assembled or disassembled

- H01T 13/58 . . . Testing ([testing characteristics of the spark in internal-combustion engine ignition F02P 17/12](#))
- H01T 13/60 . . . of electrical properties

- H01T 14/00** **Spark gaps not provided for in groups [H01T 2/00](#) to [H01T 13/00](#)** ([devices providing for corona discharge H01T 19/00](#))

- H01T 15/00** **Circuits specially adapted for spark gaps, e.g. ignition circuits** ([ignition circuits for internal-combustion engines F02P](#) ; [electric spark ignition for combustion apparatus F23Q](#) ; [protection circuits using spark gaps H02H 9/06](#))

- H01T 19/00** **Devices providing for corona discharge** ([for charging electrographic elements G03G 15/02](#))

- H01T 19/02 . . . Corona rings

- H01T 19/04 . . . having pointed electrodes

H01T 21/00 **Apparatus or processes specially adapted for the manufacture or maintenance of spark gaps or sparking plugs**

H01T 21/02 . of sparking plugs

H01T 21/04 . . Cleaning ([abrasive blasting devices for cleaning sparking-plugs B24C 3/34](#))

H01T 21/06 . Adjustment of spark gaps ([sparking-plugs having movable electrodes for adjusting the gap H01T 13/26](#))

H01T 23/00 **Apparatus for generating ions to be introduced into non-enclosed gases, e.g. into the atmosphere** ([discharge tubes with provision for emergence of ions from the vessel H01J 33/00](#); [generating plasma H05H](#))