

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.

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 stacked 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](#))