

**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	<ul style="list-style-type: none"> <li>• having a single gap or a plurality of gaps in parallel</li> </ul>
H01T 4/12	<ul style="list-style-type: none"> <li>• • hermetically sealed</li> </ul>
H01T 4/14	<ul style="list-style-type: none"> <li>• • Arcing horns (<a href="#">associated with insulators H01B 17/46</a>)</li> </ul>
H01T 4/16	<ul style="list-style-type: none"> <li>• having a plurality of gaps arranged in series</li> </ul>
H01T 4/18	<ul style="list-style-type: none"> <li>• • Arrangements for reducing height of stacked spark gaps</li> </ul>
H01T 4/20	<ul style="list-style-type: none"> <li>• • Arrangements for improving potential distribution</li> </ul>
<b>H01T 7/00</b>	<b>Rotary spark gaps, i.e. devices having one or more rotating electrodes</b>
<b>H01T 9/00</b>	<b>Spark gaps specially adapted for generating oscillations</b>
<b>H01T 11/00</b>	<b>Spark gaps specially adapted as rectifiers</b>
<b>H01T 13/00</b>	<b>Sparking plugs</b>
H01T 13/02	<ul style="list-style-type: none"> <li>• Details</li> </ul>
H01T 13/04	<ul style="list-style-type: none"> <li>• • Means providing electrical connection to sparking plug (<a href="#">electric connections in general H01R</a>)</li> </ul>
H01T 13/05	<ul style="list-style-type: none"> <li>• • • combined with interference suppressing or shielding means</li> </ul>
H01T 13/06	<ul style="list-style-type: none"> <li>• • Covers forming a part of the plug and protecting it against adverse environment</li> </ul>
H01T 13/08	<ul style="list-style-type: none"> <li>• • Mounting, fixing or sealing of sparking plugs, e.g. in combustion chamber</li> </ul>
H01T 13/10	<ul style="list-style-type: none"> <li>• • • by bayonet-type connection</li> </ul>
H01T 13/12	<ul style="list-style-type: none"> <li>• • Means on sparking plugs for facilitating engagement by tool or by hand</li> </ul>
H01T 13/14	<ul style="list-style-type: none"> <li>• • Means for self-cleaning</li> </ul>
H01T 13/16	<ul style="list-style-type: none"> <li>• • Means for dissipating heat</li> </ul>
H01T 13/18	<ul style="list-style-type: none"> <li>• • Means for heating, e.g. for drying</li> </ul>
H01T 13/20	<ul style="list-style-type: none"> <li>• characterised by features of the electrodes or insulation</li> </ul>
H01T 13/22	<ul style="list-style-type: none"> <li>• • having two or more electrodes embedded in insulation (<a href="#">for two or more sparks H01T 13/46</a>)</li> </ul>
H01T 13/24	<ul style="list-style-type: none"> <li>• • having movable electrodes (<a href="#">H01T 13/28 takes precedence</a>)</li> </ul>
H01T 13/26	<ul style="list-style-type: none"> <li>• • • for adjusting spark gap otherwise than by bending of electrode</li> </ul>
H01T 13/28	<ul style="list-style-type: none"> <li>• • having spherically shaped electrodes, e.g. ball-shaped</li> </ul>
H01T 13/30	<ul style="list-style-type: none"> <li>• • • mounted so as to permit free movement</li> </ul>
H01T 13/32	<ul style="list-style-type: none"> <li>• • characterised by features of the earthed electrode</li> </ul>
H01T 13/34	<ul style="list-style-type: none"> <li>• • characterised by the mounting of electrodes in insulation, e.g. by embedding</li> </ul>
H01T 13/36	<ul style="list-style-type: none"> <li>• • characterised by the joint between insulation and body, e.g. using cement</li> </ul>
H01T 13/38	<ul style="list-style-type: none"> <li>• • Selection of materials for insulation (<a href="#">in general H01B 3/00</a>)</li> </ul>
H01T 13/39	<ul style="list-style-type: none"> <li>• • Selection of materials for electrodes</li> </ul>
H01T 13/40	<ul style="list-style-type: none"> <li>• structurally combined with other devices (<a href="#">combined or associated with fuel injectors F02M 57/06; structurally combined with other parts of internal-combustion engines F02P 13/00</a>)</li> </ul>
H01T 13/41	<ul style="list-style-type: none"> <li>• • with interference suppressing or shielding means</li> </ul>
H01T 13/42	<ul style="list-style-type: none"> <li>• • with magnetic spark generators</li> </ul>

- 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](#))