

# CPC COOPERATIVE PATENT CLASSIFICATION

## F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

### LIGHTING; HEATING

## F23 COMBUSTION APPARATUS; COMBUSTION PROCESSES (NOTE omitted)

## F23Q IGNITION (devices or installations peculiar to internal-combustion engines [F02P](#); of cigarettes or tobacco [A24F](#); compositions therefor, chemical igniters [C06C](#)); EXTINGUISHING-DEVICES

- |             |                                                                                                                                                                                                   |             |                                                                                                                                                                                              |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1/00</b> | <b>Mechanical igniters</b> (lighters containing fuel <a href="#">F23Q 2/00</a> ; matches <a href="#">C06F</a> )                                                                                   | 2/32        | . Lighters characterised by being combined with other objects (combinations with smokers' equipment <a href="#">A24F</a> )                                                                   |
| 1/02        | . using friction or shock effects                                                                                                                                                                 | 2/325       | . . {combined with clock, timer or counter}                                                                                                                                                  |
| 1/04        | . . on a part moved by the fuel-controlling member, e.g. by a tap on a gas cooker                                                                                                                 | 2/34        | . Component parts or accessories                                                                                                                                                             |
| 1/06        | . . Portable igniters                                                                                                                                                                             | 2/345       | . . {Scent-distribution or flame-colouring devices}                                                                                                                                          |
| <b>2/00</b> | <b>Lighters containing fuel, e.g. for cigarettes</b>                                                                                                                                              | 2/36        | . . Casings                                                                                                                                                                                  |
| 2/02        | . Lighters with liquid fuel {fuel which is fluid at atmospheric pressure}                                                                                                                         | 2/365       | . . . {Tabletop lighters}                                                                                                                                                                    |
| 2/04        | . . with cerium-iron alloy and wick {with friction ignition}                                                                                                                                      | 2/38        | . . . with containers for flints or tools                                                                                                                                                    |
| 2/06        | . . . with friction wheel                                                                                                                                                                         | 2/40        | . . Cover fastenings                                                                                                                                                                         |
| 2/08        | . . . . with ignition by spring action of the cover                                                                                                                                               | 2/42        | . . Fuel containers; Closures for fuel containers                                                                                                                                            |
| 2/10        | . . . with other friction member                                                                                                                                                                  | 2/44        | . . Wicks; Wick guides or fastenings                                                                                                                                                         |
| 2/12        | . . with cerium-iron alloy without wick                                                                                                                                                           | 2/46        | . . Friction wheels; Arrangement of friction wheels                                                                                                                                          |
| 2/14        | . . with cerium-iron alloy and torch ignited by striking or pushing                                                                                                                               | 2/48        | . . Flint (composition, manufacture <a href="#">C06C 15/00</a> ); Guides for, or arrangements of, flints                                                                                     |
| 2/16        | . Lighters with gaseous fuel, e.g. the gas being stored in liquid phase                                                                                                                           | 2/50        | . . Protecting coverings                                                                                                                                                                     |
| 2/161       | . . {with friction wheel}                                                                                                                                                                         | 2/52        | . . Filling devices (in general <a href="#">B67D</a> )                                                                                                                                       |
| 2/162       | . . {with non-adjustable gas flame (if electrically ignited <a href="#">F23Q 2/28</a> )}                                                                                                          | <b>3/00</b> | <b>Igniters using electrically-produced sparks</b> (sparking-plugs <a href="#">H01T 13/00</a> )                                                                                              |
| 2/163       | . . . {Burners (gas valves)}                                                                                                                                                                      | 3/002       | . {using piezo-electric elements}                                                                                                                                                            |
| 2/164       | . . {Arrangements for preventing undesired ignition}                                                                                                                                              | 3/004       | . {Using semiconductor elements}                                                                                                                                                             |
| 2/165       | . . {with more than one flame}                                                                                                                                                                    | 3/006       | . {Details (sparking-plugs <a href="#">H01T 13/00</a> )}                                                                                                                                     |
| 2/167       | . . with adjustable flame                                                                                                                                                                         | 3/008       | . {Structurally associated with fluid-fuel burners}                                                                                                                                          |
| 2/173       | . . Valves therefor (valves in general <a href="#">F16K</a> )                                                                                                                                     | 3/01        | . Hand-held lighters, e.g. for cigarettes                                                                                                                                                    |
| 2/18        | . Lighters with solid fuel                                                                                                                                                                        | <b>5/00</b> | <b>Make-and-break ignition, i.e. with spark generated between electrodes by breaking contact therebetween (specially adapted for internal-combustion engines <a href="#">F02P 15/00</a>)</b> |
| 2/20        | . . with cerium-iron alloy and friction wheel                                                                                                                                                     | <b>7/00</b> | <b>Incandescent ignition; Igniters using electrically-produced heat, e.g. lighters for cigarettes (circuits therefor <a href="#">H01T 15/00</a>); Electrically-heated glowing plugs</b>      |
| 2/22        | . . with cerium-iron alloy and tinder                                                                                                                                                             | 7/001       | . {Glowing plugs for internal-combustion engines}                                                                                                                                            |
| 2/24        | . . ignition pills or strips with inflammable parts {(ignition pills <a href="#">C06C 9/00</a> , <a href="#">C06C 15/00</a> ; corresponding lighters with fluid fuel <a href="#">F23Q 2/10</a> )} | 2007/002    | . . {with sensing means}                                                                                                                                                                     |
| 2/26        | . . combined with liquid fuel lighters                                                                                                                                                            | 2007/004    | . . {Manufacturing or assembling methods}                                                                                                                                                    |
| 2/28        | . Lighters characterised by electrical ignition of the fuel (lighter with electrically-produced sparks but without fuel <a href="#">F23Q 3/00</a> )                                               | 2007/005    | . . . {pressure sensors}                                                                                                                                                                     |
| 2/282       | . . {with incandescent ignition (lighters with incandescent ignition but without fuel <a href="#">F23Q 7/00</a> )}                                                                                | 2007/007    | . . . {ion current sensors}                                                                                                                                                                  |
| 2/285       | . . {with spark ignition}                                                                                                                                                                         | 2007/008    | . . . {temperature sensors}                                                                                                                                                                  |
| 2/287       | . . . {piezo-electric}                                                                                                                                                                            | 7/02        | . for igniting solid fuel                                                                                                                                                                    |
| 2/30        | . Lighters characterised by catalytic ignition of fuel (catalytic igniters without fuel <a href="#">C06C</a> )                                                                                    | 7/04        | . . with fans for transfer of heat to fuel                                                                                                                                                   |
|             |                                                                                                                                                                                                   | 7/06        | . structurally associated with fluid-fuel burners (lighters containing fuel <a href="#">F23Q 2/00</a> )                                                                                      |

- 7/08 . . for evaporating and igniting liquid fuel, e.g. in hurricane lanterns
- 7/10 . . for gaseous fuel, e.g. in welding appliances
- 7/12 . . . actuated by gas-controlling device
- 7/14 . Portable igniters
- 7/16 . . with built-in battery
- 7/18 . . with built-in generator
- 7/20 . . with built-in mains transformer
- 7/22 . Details
- 7/24 . . Safety arrangements
- 7/26 . . . Provision for re-ignition

#### **9/00 Pilot flame igniters**

- 9/02 . without interlock with main fuel supply
- 9/04 . . for upright burners, e.g. gas-cooker burners
- 9/045 . . . {Structurally associated with a main-burner}
- 9/06 . . for inverted burners, e.g. gas lamps
- 9/08 . with interlock with main fuel supply
- 9/10 . . to determine the sequence of supply of fuel to pilot and main burners
- 9/12 . . to permit the supply to the main burner in dependence upon existence of pilot flame
- 9/14 . . . using electric means, e.g. by light-sensitive elements

#### **11/00 Arrangement of catalytic igniters (catalytic igniters per se [C06C](#))**

- 11/04 . at the burner
- 11/06 . remote from the burner, e.g. on the chimney of a lamp
- 11/08 . on a part moved by the fuel controlling member
- 11/10 . . and moving out of the flame after ignition

#### **13/00 Igniters not otherwise provided for**

- 13/005 . {using light, e.g. sunlight or laser}
- 13/02 . using gas burners, e.g. gas pokers
- 13/04 . using portable burners, e.g. torches, fire pots

#### **21/00 Devices for effecting ignition from a remote location**

#### **23/00 Testing of ignition installations (peculiar to internal-combustion engines [F02P 17/00](#))**

- 23/02 . Testing of ignition timing
- 23/08 . Testing of components (of sparking plugs [H01T 13/58](#), [F02P 17/12](#))
- 23/10 . . electrically

#### **25/00 Extinguishing-devices, e.g. for blowing-out or snuffing candle flames (for cigarettes [A24F](#))**