ABSTRACT

An apparatus, method and system is disclosed for a pilot light ignition system. In one embodiment, the apparatus includes: (1) a fluid powered linear actuator and (2) a trigger member, wherein the linear actuator is configured to move the trigger member to triggering a spark generating mechanism to generate a spark for igniting a pilot light. The pilot light ignition system may be for use with, for example, a crude oil burner or gas flare.
301: Receive fluid to drive linear actuator

302: Move trigger member

303: Trigger spark generating mechanism

304: Generate spark to ignite pilot light

305: Use pilot light to ignite further combustible medium

306: Cease application of fluid

FIG. 3
APPARATUS, METHOD AND SYSTEM FOR A PILOT IGNITION SYSTEM

CROSS REFERENCE TO RELATED APPLICATION

[0001] This disclosure claims priority from GB Application No. 1313877.1 filed on Aug. 2, 2013, entitled “APPARATUS, METHOD AND SYSTEM FOR A PILOT IGNITION SYSTEM,” commonly assigned with the present disclosure and incorporated herein by reference in its entirety.

TECHNOCAL FIELD

[0002] Embodiments of this disclosure relate to an apparatus, method and system for a pilot ignition system. In particular, though without prejudice to the foregoing, embodiments relate to an apparatus, method and system for a pilot light ignition system for oil and gas burners, such as crude oil burners and gas flares.

BACKGROUND

[0003] Crude oil burners and gas flares (flare stacks) are hydrocarbon combustion devices used in industrial plants such as petroleum refineries, chemical plants, natural gas processing plants as well as onshore and offshore oil or gas production sites, oil wells, gas wells, oil and gas rigs and landfills. Such burners typically have a pilot light/flame that is kept alight that serves as an ignition source for the main burning of the crude oil/gas. However, the pilot light/flame itself requires ignition.

[0004] Customarily pilot ignition systems are electrically based and involve the use of for example: transformers, capacitors and spark plugs. Such systems require an external supply of high voltage electricity. However, burners, and their associated pilot ignition system, are often used in remote locations, such as in a desert, where there may not be a ready supply of electricity. Thus additional support equipment, e.g. a portable generator would be required on site. Moreover, since the pilot light of the pilot ignition system is normally located within of highly proximal to the main burner, e.g. crude oil burner/gas flare, the pilot ignition system can be subjected to extreme conditions. Not only must the pilot ignition system be able to withstand temperatures of the order of 200°C, but also the pilot ignition system must also endure outdoor environment conditions including precipitation, wind as well as particularly for offshore applications corrosive salt water/spray. Accordingly, previous electrically based pilot ignition systems are not always optimal as there are difficulties in providing electrical power supply lines and power supply connections for the pilot ignition system that can endure such conditions.

[0005] The listing or discussion of any prior-published document or any background in this specification should not necessarily be taken as an acknowledgement that the document or background is part of the state of the art or is common general knowledge. One or more aspects/examples of the present disclosure may or may not address one or more of the background issues.

BRIEF SUMMARY

[0006] In one aspect, the disclosure provides an apparatus configured for use in a pilot light ignition system. In one embodiment, the apparatus includes: (1) a fluid powered linear actuator and (2) a trigger member, wherein the linear actuator is configured to move the trigger member and wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light.

[0007] In another aspect, a pilot light ignition system is disclosed. In one embodiment, the pilot light ignition system includes: (1) a fluid powered linear actuator, (2) a trigger member, wherein the linear actuator is configured to move the trigger member and wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light and (3) a spark generating mechanism for igniting a pilot light.

[0008] In yet another aspect, the disclosure provides a method for use in a pilot light ignition system. In one embodiment the method includes causing, at least in part, actions that result in: (1) receiving a fluid to drive a fluid powered linear actuator and (2) moving a trigger member with the fluid powered linear actuator, wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] For a better understanding of various examples that are useful for understanding the disclosure, reference will now be made by way of example only to the accompanying drawings in which:

[0010] FIG. 1 schematically illustrates an example of an apparatus;
[0011] FIG. 2 schematically illustrates an example of a further apparatus;
[0012] FIG. 3 schematically illustrates a method;
[0013] FIG. 4 illustrates an example of a pilot ignition system including the apparatus;
[0014] FIG. 5 illustrates an example of a firing mechanism of a pilot ignition system;
[0015] FIG. 6 illustrates an example of an ignition cartridge of a pilot ignition system;
[0016] FIG. 7 illustrates an example of an air operated pilot ignition system with a front end assembly; and
[0017] FIG. 8 illustrates an example of a fuel operated pilot ignition system with a front end assembly.

DETAILED DESCRIPTION

[0018] The disclosure provides an apparatus and method for use in a pilot light ignition system. The apparatus may form a module for a pilot ignition system. In some instances, the apparatus may be comprised/installed in a pilot ignition system or a burner, such as a crude oil burner or gas flare.

[0019] The Figures schematically illustrate an apparatus 100 configured for use in a pilot light ignition system, wherein the pilot light ignition system 101 comprises a spark generating mechanism 104 configured to generate a spark 105 for igniting a pilot light 106. The apparatus comprises a fluid powered linear actuator 102 and a trigger member 103. The linear actuator 102 is configured to move the trigger member 103 and movement of the trigger member 103 is configured such that, in use when the apparatus is installed in the pilot light ignition system, the trigger member is able to trigger the spark generating mechanism 104 to generate a spark 105 to ignite a pilot light 106.

[0020] The apparatus may be provided in a module. As used here, 'module' refers to a unit or apparatus that excludes certain parts/components that would be added by an end manufacturer or a user. The apparatus 100 may be a module of...
the pilot light ignition system 101 able to be installed therein or an integral part of the pilot light ignition system. The pilot light ignition system further includes a spark generating mechanism 104 configured to generate a spark 105, for example via piezo ignition, to ignite a supply of a first combustible medium to form a pilot light 106.

[0021] The apparatus 100 and/or the pilot light ignition system 101 may themselves form a module of a burner or be an integral part of a burner, such as: a crude oil burner or a gas flare, wherein the pilot light is used to ignite, e.g. crude oil or natural/produced gas.

[0022] Examples of the disclosure provide the advantage of a simple and robust apparatus for use in igniting a pilot light.

[0023] An example of an apparatus 100 for a pilot ignition system 101 will now be described with reference to the Figures. FIG. 1 schematically illustrates a block diagram of the apparatus 100 which focuses on the functional components necessary for describing the operation of the apparatus 100. Similar reference numerals are used in the Figures to designate similar features. For clarity, all reference numerals are not necessarily displayed in all figures.

[0024] FIG. 1 schematically illustrates an example of an apparatus 100 for a pilot ignition system 101. The apparatus 100 comprises a fluid powered linear actuator 102, such as a hydraulic or pneumatic linear actuator, for providing a linear stroke in a first direction (as shown by arrow 107). A trigger member 103 is coupled to the linear actuator such that the linear actuator causes movement of the trigger member 103. The trigger member acts as a trigger/switch for a spark generating mechanism 104 (shown in outline) to trigger the mechanism 104 to generate a spark 105 (shown in outline) for igniting a pilot flame 106 (shown in outline). The spark generating mechanism 104 may involve piezo ignition as discussed in greater detail below.

[0025] The linear actuator may comprise a cylinder 108 which receives fluid 109 under pressure, e.g. for a hydraulic cylinder: water, oil or some other suitable hydraulic fluid or alternatively for a pneumatic cylinder compressed air or some other pressurised gas. In some examples as discussed in greater detail below, the pressurised gas could be the same as the gas which fuels the pilot light, i.e. the source of the pressurised gas could be the same as the source of the combustible medium fueling the pilot light.

[0026] The supplied pressurized fluid drives a linear stroke of a piston 110. A trigger member 103 is provided at a distal end of a piston rod 111. The trigger member is configured such that, in use, when moved from an unexpended starting position to a second extended position, it provides a force on the spark generating mechanism 104 triggering/activating the same to generate a spark.

[0027] The component blocks of FIG. 1 are functional and the functions described may or may not be performed by a single physical entity. For example, the spark generating mechanism 104 may comprise separate firing mechanism module 201 and spark generator module 203 as shown in FIG. 2 and described with respect to FIGS. 5 and 6.

[0028] The apparatus 100, including any tubing, ducting or hose assemblies for providing the pressurised fluid 109 to the apparatus as well as the pilot ignition system 101 itself (and any tubing, ducting or hose to provide the combustible medium to the ignition zone 105) pilot light 106 are configured to withstand temperatures ranging from −40°C. up to 300°C. In some embodiments, the apparatus and various other components of the pilot ignition system are made from non-corrosive and heat resistant materials having a melting point greater than or at least one of: −40°C., 200°C. and 300°C. For example materials such as Stainless Steels, Aluminium Bronzes and G30 Peak could be used.

[0029] FIG. 2 schematically illustrates an example of an apparatus 200 for a pilot ignition system 101. The apparatus 200 is similar to that described above with reference to apparatus 100 of FIG. 1. However the apparatus 200 further comprises a biasing means 202, such as a return spring, and an aperture that is open to the atmosphere 203, e.g. a bleed or venting hole.

[0030] The biasing means 202 is configured to bias the piston 110 in a second direction (shown by arrow 204) opposite to the first direction 107 in which the fluid 109 forces the piston. The biasing means is configured such that, in use, the supply of pressurised fluid above a threshold pressure level creates a force on the piston in the first direction 107 which is greater that the force from the biasing means 202 in the opposing second direction 204. However, once the pressure drops below the threshold pressure level the biasing means forces the piston in the second direction. In this manner the biasing means acts as a return spring enabling reciprocal motion of the piston and trigger member based on turning on and off the supply of the pressurised fluid, thereby enabling a re-setting of the apparatus to re-trigger the spark generating mechanism.

[0031] To facilitate the biasing means being able to force the piston in the second direction when pressurised fluid is not actively being applied, a bleed hole 203 may be provided, which allows the fluid within the cylinder 108 to vent/escape to the atmosphere thereby reducing the pressure of fluid within the cylinder. The provision of such a venting or bleed hole 203 provides an open hydraulic/pneumatic circuit in which the hydraulic/pneumatic fluid can escape. However, in alternative embodiments, there are no venting or bleed holes 203 and a closed hydraulic/pneumatic circuit is provided.

[0032] The apparatus 200 is configured for use in a pilot ignition system 201 which comprises the apparatus 200 itself and a spark generating mechanism 104. The apparatus 200 can be considered as one of several modules of the pilot ignition system 201. The apparatus acts as a triggering module for the spark generating mechanism 104. The spark generating mechanism 104 itself may comprise a firing mechanism module 205 and a spark generator module 206.

[0033] The firing mechanism 205 is triggered by movement of the trigger member 103 which causes a striking member 207 to be fired at/impacted upon the spark generator 206. The spark generator may involve piezo ignition and comprise a piezo-electric material, such as a quartz crystal, which, when deformed by being struck by the striking member, generates a high voltage electrical discharge/spark 105 that is used to ignite a pilot light 106 which is supplied with combustible medium 208 that fuels the pilot light 106 thereby proving a constant pilot light/lame.

[0034] In the example of FIG. 2, the gas 109 which is used as the pneumatic gas for driving the linear actuator is the same as the gas 208 used to fuel the pilot light. A regulator 209 regulates the gas supplied to the ignition zone 105/pilot light 106. A further regulator could be provided in the tubing assembly which provides the supply of gas 109 to drive the linear actuator. The one or more regulators can be factory set and tamper proof to optimally set the required gas pressure levels.
[0035] The dual use of a supply of combustible medium (e.g. a tank of propane gas) both as the driving fluid for the linear actuator as well as the fuel for the pilot light advantageously reduces the amount of equipment required. For example an air compressor, a power supply for the air compressor as well as hoses and tubing assemblies for delivering the compressed air from the compressor to the linear actuator would not be required. Instead the apparatus could be powered and operated just using a tank of propane gas. This enables the apparatus as well as pilot ignition systems and burner including the same, to be more robust and simpler to use as well as better able to be ‘stand-alone’ devices/systems requiring less ancillary equipment and power supplies to operate. This is particularly advantageous when the apparatus is used in remote locations, such as the desert or offshore.

[0036] The apparatus 200, in use in the pilot ignition system 201, ignites the first pilot light 106 fuelled by a first source of combustible medium 208. This pilot light 106 may itself be used to ignite at least a second pilot light 210 fuelled by a further supply of combustible medium 211. The supply of a second combustible medium 211 may be at a greater pressure and rate that the supply of the first combustible medium such that the rate of consumption of the second combustible medium 211 is larger and the second pilot light 210 is larger/has a larger flame than the first pilot light. The supply of the second combustible medium 211 can be selectively switched on or off to selectively switch on or off the second pilot light 210.

[0037] Advantageously, this facilitates the first pilot light, having a relatively low rate of fuel consumption, being continually alight for extended periods of time, whereas the second pilot light could by ignited and kept alight only when required. Alternatively, the source of the second combustible medium 209 could be swapped during use, e.g. gas cylinders to naturally produced gas. For example, in one exemplary case, the first pilot light 106 could be fuelled by one or more cylinders of propane providing 0.8 Bar of pressure wherein the gas is consumed at a rate of 0.75 kg of propane per hour by the first pilot light. Whereas the second pilot light 208 might be fuelled by a bank of cylinders of propane providing 3-4 Bar of pressure wherein the gas is consumed at rate of 50 kg of propane per hour by the second pilot light.

[0038] The pilot ignition system 201, when used with a burner providing a source of a yet further combustible medium 212, e.g. crude oil of naturally produced gas, may use the second pilot light 210 to ignite a ‘main burn’ 213 fuelled by the combustible medium 212.

[0039] FIG. 3 schematically illustrates an example of a flow chart 300 of a method of using the apparatus 100 or 200 described above with reference to FIGS. 1 and 2.

[0040] In block 301, pressurised fluid is received by the linear actuator 102.

[0041] Responsive to which, in block 302, the trigger member 103 moves. In block 303, movement of the trigger member triggers the spark generating mechanism 104. In block 304 the spark generating mechanism 104, having been triggered/set off by the trigger member, generates a spark 105 that ignites the first pilot light 106 which is fuelled by a supply of first combustible medium 207.

[0042] In block 305 (shown in outline) the pilot light 106 is used to ignite at least a further combustible medium, e.g. the combustible medium 211 to produce a second pilot and/or the combustible medium 212 to produce the main burn 213.

[0043] In block 306 (shown in outline), once the first pilot light has been ignited, the application of pressurised fluid to the linear actuator could be ceased. Moreover, block 306 could also be effected in the event that there were some issue with the ignition of the pilot light (e.g. no spark was generated, the first combustible medium was not adequately ignited or there was an inadequate supply of combustible medium and/or air to establish a constant first pilot light). Following which blocks 301 to 304 could be repeated. Requiring the intervening step of ceasing the application of the pressurised fluid to re-set the apparatus and re-perform method blocks 301 to 304, in effect enforces a delay in the generation of sparks, limiting the rate at which sparks can be generated. As will be discussed below with respect to certain examples, where the first spark fails to ignite and lead to a stable pilot light such that a further ignition spark is required, advantageously the enforced delay provides time for the re-supply of combustible medium to the ignition zone around the spark discharge area, e.g. enables the fuel gas to (re-)fill the ignition zone so that by the time the subsequent spark is generated in the ignition zone, there is a sufficient quantity of fuel gas to be ignited. Due to the enforced delay/minimal rate of spark production, advantageously a user is not able to create sparks at too high a rate, i.e. produce subsequent sparks prior to the adequate re-supplying/re-filling of the ignition zone with combustible medium.

[0044] The flowchart 300 represents one possible scenario among others. The order of the blocks shown is not necessarily required, so in principle, the various blocks can be performed out of order. Not all the blocks are essential. Examples disclosed herein provide both a method and corresponding apparatus consisting of various modules or means that provide the functionality described and for performing the steps of the method. The blocks support: combinations of means for performing the specified functions; combinations of steps for performing the specified functions.

[0045] FIG. 4 illustrates an example of a pilot ignition system 401 including: an apparatus 400 (similar to the apparatuses 100 and 200 described above with reference to FIGS. 1 and 2) and spark generating mechanism 104. The spark generating mechanism 104 comprises a firing mechanism 204 and a spark generator 206. In this example the spark generator 206 is an ignition cartridge.

[0046] Application of pressurised/compressed gas 109 forces the piston to move which itself moves the trigger member 103 which triggers/activates/fires the firing mechanism 204 forcing a striking member to impact upon the ignition cartridge. This impact causes a deformation of a piezo crystal in the ignition cartridge which generates a high voltage that is guided along an electrode 402 to cause an electrical discharge generating a spark at an ignition zone 403. A first combustible medium is supplied to the ignition zone such that it is able to be ignited by the spark and produce a pilot light.

[0047] FIG. 5 illustrates an exploded view of the firing mechanism 204 of FIG. 4. The firing mechanism is configured, when triggered to fire by the apparatus 400, to force a striking member/hammer 205 to strike/impact upon an ignition cartridge 205 to cause the generation of a spark via piezo ignition. The firing mechanism is configured so as to be re-settable following a firing and able to retract the spring loaded striking member ready for re-firing, e.g. involving a push button mechanism (actuatable by the triggering member) or a cam-follower mechanism. The firing mechanism
FIG. 6 illustrates an exploded view of the spark generator/ignition cartridge 206, as well as the ignition cartridge in an assembled form. The ignition cartridge 206 is configured such that, when struck/impacted upon by the striking member 205 of the firing mechanism 204, a piezo electric material 604 is deformed thereby generating a voltage. This voltage is directed via one or more electrodes 606 to an ignition zone 403 to generate a spark discharge 105 to ignite the first combustible medium, which is supplied to the ignition zone. The ignition cartridge 206 comprises: an end cap 601, a hammer plate 602, a wave washer 603, a piezo crystal 604, a crystal insulator 605, an electrode 606, an electrode insulator 607 and a housing 608.

FIG. 7 illustrates an example of a pilot ignition system 700 including a front end assembly 701. The front end assembly is attached (directly or indirectly) to the apparatus 400, firing mechanism 204 and ignition cartridge 206. The front end assembly provides a propagation tube 702 that surrounds the electrode 606. The propagation tube itself is surrounded by a housing 703. Fuel gas 207 is provided to the space 704 between the propagation tube 702 and the housing 703. Moreover, the propagation tube is provided with one or more apertures 705 within its walls at an end proximal to the ignition cartridge 206. This enables fuel gas to enter/percolate into the propagation tube and surround the ignition cartridge’s electrode within the propagation tube.

The pilot ignition system is 'air actuated' in that compressed air 109 is supplied to the apparatus 100, to drive the pneumatic linear actuator of the apparatus 400 to trigger the firing mechanism 204 to cause the ignition cartridge 206 to generate an electrical discharge at the end of its electrode thereby igniting the fuel gas within the propagation tube in the vicinity of the electrode 706. This generates a flame which propagates/travels along the propagation tube, combusting the fuel therein, away from the ignition cartridge towards the propagation tube’s distal end which is open to the atmosphere (this is known as “flame to atmosphere”). Here the flame then meets the fuel gas that is supplied between the propagation tube and the housing, this supply of fuel gas is ignited to provide a first pilot light 106. The pilot light can optionally be provided with a weather shield for protection against wind and rain.

An additional combustible medium 209 could be supplied, as and when required, to the pilot light 106, via gas jet oriﬁces located proximal to the pilot light 106, to provide a secondary burn to produce a second (larger) pilot light/ﬂame (not shown). A yet further additional combustible medium (not shown), e.g. crude oil or natural gas, could be supplied via jets/ nozzles of a burner (not shown) proximal to the first and/or second pilot light to provide a main burn (not shown).

Advantageously, the apparatus provides a single, albeit it re-settable, linear stroke in a first direction which is controllable by the application of hydraulic/pneumatic fluid. The linear stroke of the apparatus moves the trigger member so as to trigger the firing mechanism (which is self re-settable for re-firing upon subsequent triggering) to cause the generation of a spark. Accordingly, the control of the application of hydraulic/pneumatic fluid provides control over the spark discharge release timing. Where the generation of a spark, for some reason, does not lead to the successful establishment of a stable pilot light, such that a further pilot ignition needs to occur, the apparatus enables a user to control when a further spark discharge occurs. The process of ceasing the supply of hydraulic/pneumatic fluid and allowing time for the fluid to be removed from the cylinder/bleed out to re-set the apparatus and, then re-supplying the fluid to the apparatus to drive the trigger member leads to a minimum re-setting/re-sparking cycle time. This minimum time between sparks advantageously provides time for the propagation tube to re-fill with fuel. If subsequent sparks were to occur at too high a rate, e.g. more than 1 per second, there would be insufficient time for the propagation tube to re-fill with fuel such that subsequent sparks would have no fuel (or and insufficient amount of fuel) in the propagation tube to enable flame to atmosphere to establish the pilot light 106. In effect, one might consider the apparatus, by causing a single spark per re-settable operation, enforces a delay in the ability to generate subsequent sparks which provides time for the propagation tube to sufficiently re-fill with fuel.

FIG. 8 illustrates a further example of a pilot ignition system 800 including a front end assembly similar to that shown in FIG. 7, except that instead of being 'air actuated' the pneumatic linear actuator of the apparatus 400 is driven by combustible fuel gas, i.e. driven by gas from the same gas supply which supplies the gas for fuelling the first pilot light. By configuring the apparatus such that it can be driven by the same source of combustible gas which fuels the pilot light, advantageously this enables a simplified user operation of the apparatus and pilot ignition system, since operation merely involves turning on or off a supply of pressurized gas to the apparatus. One or more regulators 209 could be provided, and the factory set, to ensure that appropriate gas pressures and flow rates of gas are supplied to the pneumatic actuator and provided to the front end assembly.

The pilot ignition systems including the front end assembly of FIGS. 7 and 8 could be provided within or proximal to a burner, e.g. a crude oil burner or gas flame, such that the first and/or second pilot flames ignite a supply of a further combustible medium, e.g. crude oil or natural gas, which sprays out of nozzles/jets of the burner in the vicinity of the pilot light(s) of the pilot ignition system.

Features described in the preceding description may be used in combinations other than the combinations explicitly described.

Although functions have been described with reference to certain features, those functions may be performable by other features whether described or not. Although features have been described with reference to certain examples, those features may also be present in other examples whether described or not. Although various examples have been described in the preceding paragraphs, those skilled in the art will appreciate that modifications to the examples given can be made without departing from the scope of the disclosure as claimed.

In this brief description, reference has been made to various examples. The description of features or functions in relation to an example indicates that those features or functions are present in that example. The use of the term 'example' or 'for example' or 'may' in the text denotes, whether explicitly stated or not, that such features or functions are present in at least the described example, whether described as an example or not, and that they can be, but are not necessarily, present in some of or all other examples.
Whilst endeavouring in the foregoing specification to draw attention to those features of the disclosure believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and or shown in the drawings whether or not particular emphasis has been placed thereon.

We claim:

1. An apparatus configured for use in a pilot light ignition system comprising:
   a fluid powered linear actuator; and
   a trigger member;
   wherein the linear actuator is configured to move the trigger member and wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light.

2. The apparatus according to claim 1, wherein the linear actuator is a hydraulic linear actuator or a pneumatic linear actuator.

3. The apparatus according to claim 1, wherein the apparatus is made from heat resistant material or materials having a melting point greater than or at least one of: 200°C and 300°C.

4. The apparatus according to claim 1, wherein the apparatus is configured to receive a combustible fluid for powering the linear actuator.

5. The apparatus according to claim 1, wherein the trigger member is configured to be moved by the linear actuator in a first direction, and wherein the apparatus further comprises a mechanism configured to move the trigger member in a second direction opposite to the first direction.

6. The apparatus according to claim 1, wherein the linear actuator comprises a cylinder configured to receive the fluid for powering the linear actuator, and wherein the cylinder comprises at least one aperture open to the atmosphere.

7. A burner, a crude oil burner or a gas flare comprising the apparatus according to claim 1.

8. A pilot light ignition system comprising:
   a fluid powered linear actuator;
   a trigger member, wherein the linear actuator is configured to move the trigger member and wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light; and
   a spark generating mechanism for igniting a pilot light.

9. The pilot light ignition system of claim 8, wherein the spark generating mechanism comprises:
   a firing mechanism comprising a striking member; and
   a spark generator; and
   wherein the firing mechanism and the spark generator are configured such that movement of the trigger member triggers the firing of the firing mechanism to force the striking member to strike the spark generator thereby causing generation of a spark for igniting a pilot light.

10. The pilot light ignition system of claim 9, wherein the spark generator comprises a piezoelectric material.

11. The pilot light ignition system of claim 9, wherein the pilot light ignition system is configured so that the pilot light is fuelled by a first combustible medium and wherein the pilot light ignition system is further configured to ignite at least a second combustible medium with the pilot light.

12. The pilot light ignition system of claim 11, wherein the pilot light ignition system is configured so that the ignition of the at least a second combustible medium forms a second pilot light.

13. A method for use in a pilot light ignition system comprising causing, at least in part, actions that result in:
   receiving a fluid to drive a fluid powered linear actuator;
   moving a trigger member with the fluid powered linear actuator wherein movement of the trigger member is suitable for triggering a spark generating mechanism for igniting a pilot light.

14. The method according to claim 13, further comprising:
   triggering a spark generating mechanism; and
   generating a spark for igniting a pilot light.

15. The method according to claim 14, wherein triggering the spark generating mechanism comprises triggering a firing of a firing mechanism to force a striking member to strike the spark generator thereby causing the generation of the spark.

16. The method according to claim 13, wherein the pilot light is fuelled by a first combustible medium, the method further comprising using the pilot light to ignite at least a second combustible medium.

17. The method according to claim 13, wherein receiving the fluid to drive the fluid powered linear actuator comprises receiving a combustible medium to drive the fluid powered linear actuator.

18. The method according to claim 13, wherein moving the trigger member comprises moving the trigger member from a first position to a second position, the method further comprising moving the trigger member from the second position to the first position.

19. The method according to claim 13, the method further comprising venting the fluid to the atmosphere.

20. An apparatus comprising means configured to cause the apparatus at least to perform the method as claimed in claim 13.