ROLL NO. _____

PATENT AGENT EXAMINATION, 2023
(Under Section 126 of the Patents Act, 1970)
PAPER II

TIME: 02.30 p.m. to 05.30 p.m. (Three Hrs) **Total Marks: 100**

Instructions

1. This paper consists of 3 parts - Part A (20 marks). Part B (30 marks) & Part C (50 Marks).
2. All questions in Part A and B are compulsory.
3. Part C comprises Part CI of 20 marks and C2 of 30 marks. Part CI consists of 2 questions and the Candidate is required to answer anyone of them, Part C2 consists of 2 questions and the candidate is required to answer anyone of them.
4. Candidates should read the questions very carefully before answering.
5. In case a candidate answers more questions than required, the first attempted question shall be evaluated.
6. No clarification will be provided during the course of the examination.
7. There is no negative marking.
8. All references to "Act" and "Rules" may be read as The Patents Act, 1970 and The Patent Rules. 2003 respectively, as amended until now and their related applications.
9. Candidate is expected to quote relevant sections and rules as well as prescribed fees and forms in the answer.

PART A

4 Questions * 5 Marks= 20 Marks

1. State the factors that need to be considered for deciding the date of filing of the request for examination, after filing an application for patent?

2. Raju is a creative person who is engaged in the business of printing wherein he mixed paints with some fluorescent chemicals in a particular ratio so that the amalgamated painting material while using appears visible during night even without any kind of light source. He has applied for patent for the amalgamated painting material and also sought copyright protection for the painting he made using this material. In both the applications he did not disclose the composition of the amalgamated painting material. What will be the effect of such a nondisclosure on the protection of his IP rights?

3. Karan, an Indian citizen, owns a shipping company in Visakhapatnam. He got a call from his friend John, a US citizen who also owns a shipping company registered in USA, informing that John's Ship "Discovery" developed some technical snag while passing through Indian coast and needed urgent repairs. He requested Karan to get it repaired at his dock in Visakhapatnam.

   On inspection of the ship Karan realized that technical snag can be repaired using technology that is patented by SHIPREP, an Indian company. The SHIPREP's patented technology can repair such damages in few hours as compared to conventional process of repair which takes weeks. Karan used that technology to repair "Discovery" at the Indian coast without the permission from SHIPREP. After few months one of the ships owned by Karan also developed the same problem and Karan got it repaired using the same patented technology of SHIPREP without permission. SHIPREP came to know about such uses of their patented technology by Karan and approaches you for your expert guidance, what is your advice to SHIPREP.

4. Explain about the Start-ups Intellectual Property Protection (SIPP) scheme and the roles of the IP facilitator and compare the benefits offered under the scheme in the years 2020 and 2023.

PART B

3 Questions * 10 Marks= 30 Marks

5. What would be the reasons for advising your client to file a request for early publication? What are the advantages of waiting till 18 months for publication? Discuss citing the appropriate provisions under the Patent Act 1970 (as amended).

6. PS Polymers Ltd designed an attractive paper cup with corrugated design and got the design registered in India. An inventor Raghu made a patent application for a corrugated paper cup which includes a cup body, a cup bottom and a cup sleeve having horizontally and vertically corrugated stripes on which there are many grooves which provides a grip to the user of the said cup. Designer team of PS polymers Ltd. finds this application in the patent office journal and while checking the drawings of patent application, the designer team found that the claimed cup in the patent application is substantially similar to the corrugated design registered in the name of PS polymers Ltd.
During search on the above said application by PS Polymers Ltd, they also found one patent document IN123456 where corrugated shape of different pattern was patented which appears to be for the same purpose. Further they also found out that Raghu had not explained the process of making the cup in the description. PS polymers Ltd. approaches you to file representation against the grant of patent to Raghu. Prepare a representation under the provisions of the Act and Rules.

7. Ramashankar a farmer whose farm is subject to periods of drought, has developed a new process of manufacturing solar power operated pumps that improves the water obtained from the pump by 75%. There is no other technology in the market that gives the same results in terms of water flow. Further, Gopika, who is daughter of Ramashankar, an engineering student, has developed a system comprising of a logic Controller with electronic modules to keep track of water yield from any type of pumps used in a farm. This system could display the exact output of water from each pump. Ramashankar and his daughter together own an agro start-up company named RAGO Solutions. They wish to protect their invention(s) in India. Gopika attended "NIPAM", the IP awareness program of the Indian Patent Office where she came to know about expedited examination. Advise them how to protect the inventions in India at the earliest.

PARTC

Parts C1 & C2 consist of 2 questions each and the candidate is required to answer any 1 of them in each part. In case a Candidate answers both the questions in any part, the first attempted question will be considered for evaluation.

Part C1

After reading the specification:

i. Provide an appropriate title,

ii. Draft an abstract (maximum of 150 words) and

iii. Draft at least 2 independent claims and subsequent dependent claims.

1 X 20 M = 20 Marks

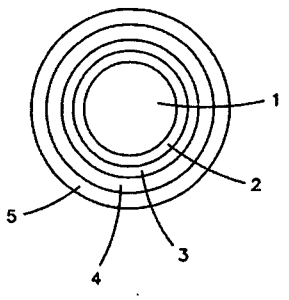
8a. Fire-resistant wires typically comprise a conductor wrapped with inorganic material in conjunction with one or more polymer layers. In case of a fire the inorganic material provides electrical insulation around the conductor once the usual layers of organic polymer insulation have been melted or burnt away. Of

various known inorganic fire-resistant wrappings, mica tapes are generally preferred. This is due to this mineral's excellent thermal and dielectric properties which provide good fire resistance and high insulation values. Fire resistance is often achieved by use of several layers of inorganic materials such as glass which makes the cables large and heavy whereas light weight and small size are achieved by thin layers of polymeric insulation. Large, heavy cables are not well suited for aerospace industry where small diameter, lightweight and high performance are important requirements for wire harnesses. In accordance with the preferred embodiments of this invention, an electrical cable is provided with a primary insulation of micaceous material, a secondary insulation of a fluoropolymer and a third layer of a fluoropolymer. The cable itself may comprise one or more electrical conductors formed of any suitable metal, preferably copper or aluminum. In a preferred embodiment, the cable comprises one or more twisted electrical conductors or strands. The primary layer is composed of a micaceous material. Preferably, this layer is in the form of a mica paper tape and is wrapped about the bare cable by conventional cable taping equipment or by direct feed into extrusion heads. The mica tape may, for example, have a thickness of about 12.7 μm (0.5 mils) to about 1.27 mm (50 mils), more preferably about 25.4 μm (1 mil) to about 101.6 μm (4 mils). The mica tape is spirally wrapped with an overlap and an opposite lay direction to the strand layer.

The fluoropolymer secondary insulation may be applied to the covered conductor by any suitable manner including tape wrapping. Especially preferred fluoropolymers include tetrafluoroethylene homopolymers (PTFE) and copolymers with hexafluoropropene, propylene or perfluorovinylpropyl ether, chlorotrifluoroethylene homopolymers. The tape width and thickness will be selected by those skilled in the art according to the conductor size and the degree of overlap required. Tapes can be approximately 5 mm - 25 mm, more preferably 10-20 mm, wide and between about 10 to 1000 μm, more preferably about 25 to about 100 μm, thick.

The tertiary insulation layer may be applied to the covered conductor by any suitable manner including extrusion coating, powder coating and the like. The extrusion of the fluoropolymer onto the secondary insulation is preferred since high rates of production can be obtained. Preferred fluoropolymers are copolymers of ethylene and tetrafluoroethylene (ETFE).

The fluoropolymer layer may also include conventional additives, such as stabilizers, fillers, crosslinking agents, pigments and the like. The thickness of the fluoropolymer layer may be in the range of about 127 μm (5 mils) to 2.54 mm (100 mils) or more, preferably about 254 μm (10 mils) to 508 μm (20 mils). The fire-resistant wire is prepared by wrapping a bare conductor with mica tape followed by a layer of polytetrafluoroethylene (PTFE), sintering the PTFE layer and extruding and crosslinking a layer of poly(ethylene-co-tetrafluoroethylene) (ETFE) over the PTFE layer. Further the product is preferably crosslinked by electron beam irradiation to further enhance the properties of the insulation. Following figure shows schematic end view the structure of a fire wire according to the present invention having a metallic wire conductor 1, two layers 2, 3 of mica tape, PTFE tape layer 4, ETFE layer 5.



8b. The invention consists of a device for crushing or mincing garlic or similar items. The device has an open topped receptacle formed with sides and a perforated bottom. A plunger fits within but is removable from the receptacle to allow garlic to be placed within it. A forcing means is provided to enable the plunger to be forced towards the bottom of the receptacle thereby crushing the garlic. Rotating means enables the plunger to be rotated to assist in breaking up the garlic. The preferred embodiment has two pivotally attached elongated members, one supporting the receptacle and the other a forcing member to which the plunger is rotatably attached.

One problem with existing garlic crushers when used for crushing garlic is that they generally work simply by compressing the cloves of garlic between two surfaces. This does, to a degree, crush the garlic cloves but is not particularly effective in causing the cloves to disintegrate and allowing the juice to be extracted unless large forces are applied. The present invention broadly consists in a garlic crusher and/or mincer comprising: a receptacle having an open top, sides, and a bottom which is perforated; a plunger which fits within but which is removable from the receptacle; forcing means which, in use, forces the plunger towards the bottom of the receptacle; and rotating means which, independently of the forcing means, enables the rotation of the plunger within the receptacle.

FIG. 1 shows a side view of the garlic crusher and/or mincer in the closed position, FIG. 2 shows a plan view from above of the garlic crusher and/or mincer in its closed position, FIG. 3 shows a plan view from above of part of the garlic crusher and/or mincer in an open position, FIG. 4 shows a side view of the plunger, and FIG. 5 shows a detail of part of the bottom of the plunger.

The garlic crusher and/or mincer of the present invention is designed particularly to have its components formed by molding of suitable plastics materials or casting of suitable metals. The preferred garlic crusher and/or mincer comprises basically three main components, these being a first elongated member 1, a second elongated member 2 and a plunger 3. The first and second elongated members are preferably molded or cast as unitary pieces although this is not an essential aspect of the invention. The first elongated member supports a receptacle 4 having an open top, sides 5 and a bottom 6 which is perforated, preferably by a plurality of holes 7. The receptacle preferably has the shape of a truncated cone so that its sides 5 taper inwardly towards the bottom. The first elongated member provides a pivot means 8 to one side of the receptacle and a handle 9 to an opposite side of the receptacle. The underside of this handle may be provided with finger grips.

The second elongated member supports a forcing member 10 of a generally circular disc shape but preferably reinforced, for example, by ribs 11 across its top surface. The second elongated member provides a pivot means 12 to one side of the forcing member and a handle 13 to an opposite side of the forcing member. The first and second members are pivotally connected together at their respective pivot means by a pivot pin 14. This enables the first and second members to be pivotally moved relative to each other from an open position, or rather a variety of open positions where the open top to the receptacle is exposed, to a closed position. One open position is shown in FIG. 3 where the first and second members have been opened to lie at 180° relative to each other. In the closed position the forcing member 10 and the handle 13 of the second member 2 are superimposed over the receptacle 4 and the handle 9 of the first member 1 respectively, the forcing member then being located over the open top of the receptacle. The plunger 3 which is shown separated from the rest of the garlic crusher in FIG. 4 is rotatably attached to the forcing member 10 such that when the first and second members are in an open position the plunger is clear of the receptacle. This allows cloves of garlic or other things to be placed in the receptacle for crushing and/or mincing. As the first and second elongated members are brought together the plunger enters the receptacle and as the handles 10 and 13 are squeezed further together the plunger crushes the garlic in the receptacle. The first and second elongated members are preferably designed so that when they are brought together to their closed position their handles are not brought completely together, a gap being left between them to prevent the skin of the hand of a user from being pinched between the handles. The plunger as shown has a body, the lower portion 15 of which is shaped to correspond generally with the shape of the bottom portion of the receptacle, the dimensions of the lower portion 15 being slightly reduced from this however. The bottom surface 16 of the plunger is preferably corrugated or grooved, and preferably corrugated or grooved in two directions at right angles so that a plurality of points 17 is provided as shown in FIG. 5. This configuration assists in the crushing and the disintegration of the thing being crushed, especially when the plunger is rotated within the receptacle while pressure is being applied to the plunger by the handles 10 and 13 being squeezed together. From the upper portion of the body of the plunger a shaft 18 projects and passes through a hole 19 in the forcing member. A third handle 20 is attached to the shaft on the side of the forcing member opposite the plunger. This handle 20 enables the plunger to be rotated independently of the forcing means. In use, when pressure is being applied, rotation of the plunger causes a shearing action between the bottom of the plunger and the bottom of the receptacle. The top and bottom surfaces of the thing being crushed tend to be gripped by the corrugations on the bottom of the plunger and by the sides of the holes

on the bottom of the receptacle respectively. This assists the shearing action. The holes of course also allow the juice, if any, from the thing being crushed to pass through. If the handle 20 is made to be detachable from the plunger, the plunger can be separated from the forcing member for more effective cleaning.

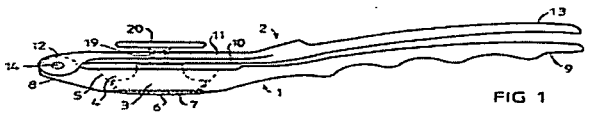


FIG 1

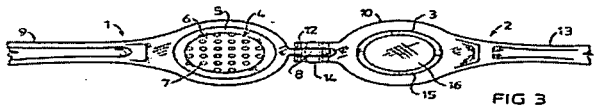


FIG 3

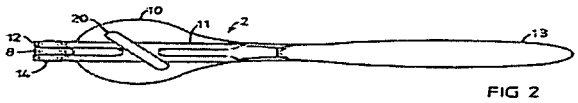


FIG 2

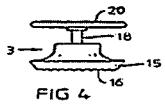


FIG 4

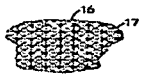


FIG 5

Part C2

A client meets you and provides technical information regarding his invention. Draft a complete specification with at least two claims and a title for anyone of the following descriptions, for filing in the Indian Patent office.

While preparing the complete specification, no need to draw the figures. However, you may refer to the figures in the specification as fig. 1, fig. 2 etc.

1 X 30M = 30 Marks

9a. The motorcycles nowadays still use internal combustion engines as a primary source of power, electric motorcycles will prevail in the foreseeable future due to technological advancement. Hence, it is imperative to apply wind power generation in electric motorcycles such that a wind power generating module can function as an auxiliary recharging device for use with an electric motorcycle and achieve the goal of enhancing the range and the energy-saving capacity of the motorcycle. The inventors of the present invention endeavors to improve the prior art and thus proposes a wind power generating module for use with an electric scooter. The proposed wind power generating module introduces external air thereinto while the electric scooter is moving so as for fan blades to be driven to rotate by a current of the air and comprises a duct for enhancing the rotational efficiency of the fan blades, thereby increasing the power generation capacity of a power generator.

A wind power generating module for use with an electric scooter is disclosed. The wind power generating module is installed on an electric scooter and includes: at least one fan blade being driven to rotate by external air introduced into the wind power generating module while the electric scooter is moving; a disc type generator with a rotor configured to rotate in conjunction with the fan blades and generate electric power; a duct circumferentially disposed at an outermost portion of the fan blades and having an opening, the opening receiving the fan blades, wherein the opening has a front opening portion functioning as an inlet for the external air and a rear opening portion functioning as an outlet for the external air, the front opening portion being smaller than the rear opening portion; a front protective cover and a rear protective cover disposed at the inlet and the outlet, respectively.

It is an objective of the present invention to provide a wind power generating module which comprises multiple blades each having a wing-shaped cross-section and an enlarged duct and thereby greatly enhances the output of electric power, and, as a result, the wind power generating module can function as an auxiliary recharging device for use with an electric scooter and achieve the goal of enhancing the range and the energy-saving capacity of the electric scooter. Another objective of the present invention is to provide a wind power generating module which is portable and thus can be installed at any appropriate position of a motorcycle, such as above the motorcycle head and thus functioning as a semi wind shield, at a motorcycle handle, outside the motorcycle front board, or inside the motorcycle front board, thereby dispensing the need for changing motorcycle structure and shape.

The objective of the present invention is to provide a wind power generating module with a wheel hub, and the wheel hub is coupled to a disc type generator to thereby achieve modularization and cut costs. In order to achieve the above and other objectives, the present invention provides a wind power generating module for use with an electric scooter, wherein the wind power generating module is disposed in an electric scooter, comprising: at least one fan blade being driven to rotate by external air introduced into the wind power generating module while the electric scooter is moving; a disc type generator with a rotor configured to rotate in conjunction with the fan blades and generate electric power; a duct circumferentially disposed at an outermost portion of the fan blades and having an opening, the opening receiving the fan blades, wherein the opening has a front opening portion functioning as an inlet for the external air and a rear opening portion functioning as an outlet for the external air, the front opening portion being smaller than the rear opening portion; a front protective cover and a rear protective cover disposed at the inlet and the outlet, respectively.

FIG. 1A is a front view of a wind power generating module for use with an electric scooter according to the present invention; FIG. 1B is a rear view of the wind power generating module for use with an electric scooter according to the present invention; FIG. 2 is a perspective view of the wind power generating module for use with an electric scooter according to the present invention; FIG. 3A is a schematic view of the wind power generating module installed on an electric motorcycle according to the present invention; FIG. 3B is a schematic view of the wind power generating module installed on an electric bicycle according to the present invention; FIG. 3C is a schematic view of the wind power generating module installed above the head of the electric motorcycle according to the present invention. Referring to figures, a wind power generating module 10 for use with an electric scooter according to the present invention is a portable wind power generating module and thus can be installed at any appropriate position of an electric scooter. The following description of the wind power generating module 10 is exemplified by an electric motorcycle. The wind power generating module is installed above the electric motorcycle head and thus functioning as a semi wind shield, at the electric motorcycle handle, outside the electric motorcycle front board, or inside the electric motorcycle front board. External air is introduced into the wind power generating module while the electric motorcycle is moving. The current of the external air drives the fan blades 101 to rotate. The rotation of the fan blades drives the rotor of a disc type generator 103 to rotate. Hence, the disc type generator 103 is capable of generating electric power. According to the present invention, the wind power generating module 10 comprises at least one fan blade 101, the disc type generator 103, a duct 105, a front protective cover 107a, and a rear protective cover 107b, which are described hereunder.

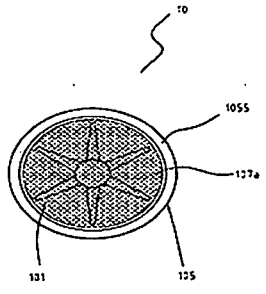


FIG. 1A

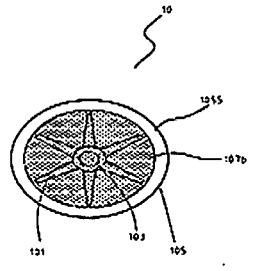


FIG. 1B

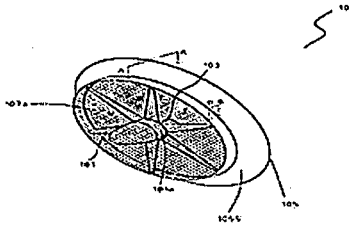


FIG. 2

The fan blades 101 rotate when driven by the flowing external air current. The fan blades consist of a plurality of the fan blades. The fan blades each have a wing-shaped cross-section. The disc type generator 103 and a wheel hub 101a of the fan blades 101 are coupled together. Once the fan blades start to rotate, the rotation of the fan blades will drive the rotor of the disc type generator to rotate, thereby causing the disc type generator to generate electric power. In practice, the disc type generator can also be a conventional disc type generator. In addition, the disc type generator can be replaced by any other type of power generators. The duct 105 is circumferentially disposed at an outermost portion of the fan blades 101, and has an opening 105a. The opening 105a receives the fan blades 101. The duct is spaced apart from the outermost portion of the fan blades by a gap. The fan blades can rotate within the opening a freely.

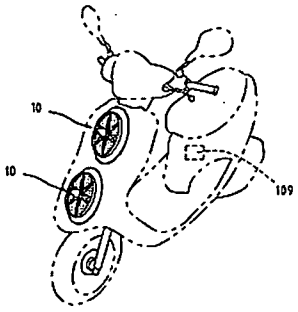


FIG. 3A

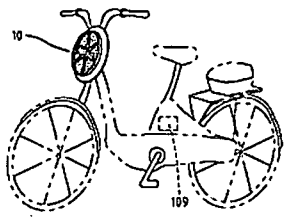


FIG. 3B

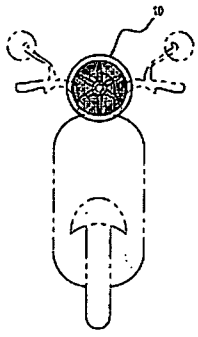


FIG. 3C

9b. The present invention is broadly concerned with temperature regulated cookware and servingware items, such as pots, pans, buffet serving pans, serving dishes, platters, and the like. More particularly, the invention is concerned with sealed cookware and servingware objects, such as pressure cookers, that are temperature and pressure regulated using control technology such as Radio Frequency Identification (RFID) technology and temperature sensors associated with the objects. The use of thermometers or other temperature sensors to monitor and control the cooking process is well known. Such thermometers are undesirable for use with cookware/serving ware objects that have a lid as the use of a probe-type thermometer requires removal of the lid each time a temperature reading is taken. Generally, pressure cooker is placed on a stove or other similar heat source and heated until the desired pressure as indicated on pressure regulator is achieved. Once the desired pressure is obtained, the heat is reduced to maintain a constant temperature and pressure within cooker. Maintaining a constant temperature and pressure within pressure cooker is often difficult to do manually, taking a considerable amount of trial and error in adjusting the stove temperature. Therefore, it would be beneficial to provide a means of easily regulating/maintaining a constant temperature and pressure within the pressure cooker.

The above-described objects are achieved using a temperature regulated object including a heatable body, a temperature sensor, an RFID tag (or another suitable transmitter/receiver), and a lid. The temperature sensor can be embedded in the base of the pressure cooker and connected to an RFID tag or the temperature sensor can extend through a tunnel in the wall of the heatable body of the object, which includes a sealing cap to cover the tunnel and prevent air and/or liquid from escaping the interior of the object, and is connected to the RFID tag by a pair of wires. The RFID tag acts as a transmitter (and sometimes as receiver) to communicate with a reader/writer located in a cook-top for heating the object, providing temperature information and other information regarding the object (such as heating characteristics) to the cook-top. The temperature information and the heating information are used by the cook-top to control the temperature and pressure within the object.

FIG. 1 is an elevation view of a prior art pressure cooker, in which temperature within pressure cooker is regulated by measuring and controlling the pressure within cooker. The pressure cooker includes typical components found in many pressure cookers, including pressure regulator, which is connected to the inner chamber of pressure cooker by vent pipe, over-pressure plug, sealing ring, air vent/cover lock, lock pin, cover handle, and cocking rack. In a preferred embodiment the heatable object is a sealed object such as a pressure cooker in which the temperature sensor extends through the wall of the cooker, the head of the temperature sensor is inserted through the tunnel in the body of the cooker from the outer surface so as to be generally flush with the inner surface of the wall of the body. A sealing cap is then positioned and crimped over (or otherwise connected to or in close contact with) the head of the sensor. In an alternative embodiment, the sealing cap is an integral part of the temperature sensor, and the sensor is inserted through the tunnel in the body of the cooker from the inner surface toward the exterior surface. The tunnel and the sealing cap may also include a potting material to surround the sensor. The tunnel through the wall of the

object of the instant invention is located at a position towards the top half to top third of the object, above the food/liquid line for the object. In a preferred embodiment the body and lid are manufactured in a manner known in the art for pots and pan, and in particular pressure cookers, and the tunnel is then drilled through the wall of the body. Nevertheless, it will be appreciated that the body can be manufactured to include the tunnel, such as by casting or any other suitable process.The RFID tag is located within a cavity formed in the handle of the object of the instant invention to position the tag outside of the heat-generation zone for the object. This reduces the temperature to which the tag is subjected, maximizing the life of the tag. The handle holds the RFID tag parallel to the cook-top surface for maximum signal strength during operation. A section elevation view of an RFID controlled pressure cooker of the instant invention in which a temperature sensor extends through the wall of the cooker is shown in figure 2 and further an exploded partial section view, taken along circle A-A of FIG. 2, showing the pressure cooker, temperature sensor and RFID tag in detail is shown in figure 3. As shown in figure 2, pressure cooker 110 includes heatable body 120, handle 180 in which RFID tag 130 is located, and temperature sensor 150 located within a tunnel that passes through the wall of body 120. Temperature sensor 150 is connected to RFID tag 130 by conductors 140, and includes sealing cap positioned over the head of sensor 150. As is shown in Figures 2 and 3, sealing cap 160 includes a diameter that is greater than the diameter of the tunnel that passes through the wall of body 120.

The RFID tag assembly includes RFID tag 130, a tag overmolding, temperature sensor, and conductor wires 140 connecting RFID tag 130 to temperature sensor 150. The tag overmolding is a shell that surrounds the RFID tag and which is filled with an epoxy-based material to waterproof and generally protect RFID tag. The shell also functions as a stiffener for conductor wires that are connected to terminal pads on RFID tag. Conductor wires include two conductor wires (such as nickel metal copper, or other similar conducting material) that are embedded within a mineral insulation of a mineral insulated cable. Temperature sensor is attached to the exposed opposing ends of conductor wires from RFID tag. Sealing cap is positioned over sensor with a potting material (such as a silicone or ceramic material) in cap surrounding temperature sensor. Sealing cap is then laser welded to a stainless steel sheath of the mineral insulated cable to provide a sealed connection between temperature sensor and wires. Sealing cap may be welded over sensor prior to positioning of sensor through the wall of cooker body. In such case, wires are pushed through the tunnel in the wall of body from the interior (cooking area) of cooker towards the exterior prior to being connected to the terminal pads of RFID tag. Alternatively, temperature sensor may be pushed through the tunnel in the wall of body from the exterior towards the interior, and then cap is positioned around sensor from the interior of cooker and laser welded.

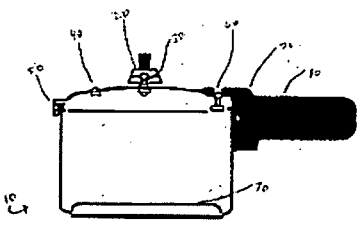


Fig. 1

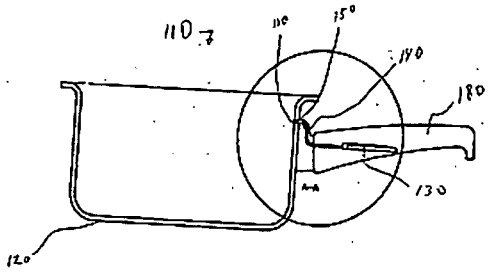


Fig. 2

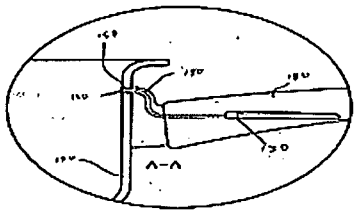


Fig. 3