RESPONSE TO FIRST EXAMINATION REPORT
Patent Application No.: 202011028272

Via e-filing

Controller of Patents : Shri Hariom Singh

The Controller of Patents
Patent Office Branch
Boudhik Sampada Bhawan,
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Deadline to file response to First Examination Report:

May 18, 2022

Indian Patent Application No.	:	202011028272
Date of Filing	:	02/07/2020
Title	:	AN AUTOMATIC ELEVATOR KEY PANEL DISINFECTING SYSTEM
Applicant	:	UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Date of FER	:	18/11/2021

Respected Sir,

We write in response to your office letter dated November 18, 2021.

Our response to the objections raised is as follows:

Response to Objection Part II (1):

Applicant notes that the claims of the present application have been held to lack inventive step in view of D1: TWM596754U and D2: US9956306B2.

Applicant would like to traverse the Examiner's rejection below by pointing out several important differences between the present invention as claimed in the amended claims and those taught by the cited references.Applicant has amended the original independent Claim 1, to more clearly describe the present invention. The amended claims clearly distinguish the present invention from the cited references. In order to better illustrate some of the key elements of the present invention, amended claim 1 has been duplicated below,

1. An elevator panel cleaning system, said system comprises of:

a first sensor (1) and a second sensor (1a) detect presence of a human hand,

a cleaning agent storage vessel (2),

a means for spreading the cleaning agent over the panel (4), characterized in that

a spraying actuator (5) spreads the cleaning agent over the panel (4) after receiving information from the first sensor (1) and the second sensor (1a), wherein the spraying actuator (5) includes Mist nozzles connected to a mini suction pump (14) for spraying the cleaning agent on the panel (4);

wherein when the first sensor (1) and the second sensor (1a) detect presence of human hand, a duct from the cleaning agent storage vessel (2) opens to spray the cleaning agent through the spray actuator (5), and a wiper for wiping the cleaning agent over the lift panel (4), wherein the wiper movement is controlled by a scissor mechanism (7) which allows

wiping operation of cleansing agent which cover rectangular area on the lift control panel, wherein the scissor mechanism (7) includes a stepper motor (8) and a coupling (9) for controlling the movement of the wiper, which is attached to a scissor lift (10), wherein the scissor lift (10) is attached on a shaft (11) attached to the coupling (9), wherein when the shaft (11) moves clockwise then the scissor lift (10) gets expanded to drop the wiper over the panel (4) and when the shaft (11) moves rotates anticlockwise, then the scissor lift (10) gets retracted to move the wiper upwards the panel (4).

The applicant respectfully submits that claims have been amended in respect to the section 2(1)(ja). Original filed claim 7 is merged with the independent claim 1 to lead towards an inventive step. Further, amendments of the claims are well supported by the original filed specification especially by page 8 and 10 of the original filed specification. No new matter has been added in the specification.

It is submitted that the documents D1-D2 fail to disclose the technical features of claim 1 i.e. "when the sensor detects presence of human hand, a duct from the cleaning agent opens to spray the cleaning agent through the spray actuator, and the means for spreading the cleaning agent over the lift panel is turned on to wipe over the lift panel."

Further, Applicant traverse the Controller's statement "that it would have been obvious to a person skilled in the art to combine the teachings of D1 with D2 to arrive at the claimed invention". Applicant wishes to bring to the kind attention of the learned Controller that a rejection of lack of inventive step must be supported with a proper rationale and cannot be based on a simple statement. In this regard, the Office must specifically identify the teachings of each of the cited documents and the differences between the cited document and the claims at hand. Once the differences have been enumerated, the same should be tested on teaching-suggestion-motivation

(TSM) rationale. If and only if the rationale satisfies, a rejection of "lack of inventive step" is tenable. In case, the Office is not following the TSM rationale, a rejection on the basis of lack of inventive step must still be based on:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- "Obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

In this regard, since the First Examination report issued in the present instance fails to provide any rationale for objecting the claims as lacking inventive step over D1 and D2. Applicant humbly submits that a prima facie validity of the objection in itself has not been made and hence merely on this account, the objection may be waived.

Without prejudice to the above, it is submitted that the present invention provides an automatic elevator key panel disinfecting system. More particularly, the invention relates to an automatic elevator key panel cleansing system which prevents transmission of communicable diseases which generally transmit when person suffering from flue, viruses or communicable skin diseases get in contact with lift operating panel for movement of lift (elevator) from one floor to another.

Further, the applicant states the working process of the claimed system as below

When the user bring his hand near the control panel of the lift for giving instruction, then his hand is detected by the sensor unit and detection status "USER OPERATING LIFT CONTROL PANEL" is recorder by the controller, when the user retrieve his hand after giving the command on the lift control panel, then sensors will send status 'USER HAND IS REMOVED FROM LIFT CONTROL PANEL'. This status will allow the controller to initiate spraying actuator unit.

Spraying actuator unit consist of Mist nozzles (Spray operation)connected to a mini suction pump which as whole allow cleansing agent to spray on the cleansing panel.

After the cleansing agent is sprayed by the spraying actuator unit, the controller initiate the stepper motor to allow wiper to spread and wipe the cleansing agent on the control panel.

Document D1 discloses an elevator button automatic cleaning device used for cleaning an elevator key panel, and the elevator key panel is electrically connected to an elevator floor control module, which includes a driving mechanism; a cleaning device with a disinfectant liquid, and the cleaning device is connected to the key panel of the drive mechanism relative to the elevator; a control module is electrically connected to the driving mechanism and the cleaning device, and the control module is used to control the cleaning device to start or shut down; The control module is used to control the driving mechanism to drive the cleaning device to generate displacement, and the control module is used to control the cleaning device to move to a predetermined position, and spray disinfection liquid to the key panel of the elevator. D1 however fails to disclose an elevator panel cleaning system includes a spraying actuator spreads the cleaning agent over the

panel after receiving information from the first sensor and the second sensor, wherein the spraying actuator includes Mist nozzles connected to a mini suction pump for spraying the cleaning agent on the panel.

Further, the document D1 nowhere mention about wiper movement is controlled by a scissor mechanism, which allows wiping operation of cleansing agent which cover rectangular area on the lift control panel.

Further, the document D1 is silent on scissor mechanism includes a stepper motor and a coupling for controlling the movement of the wiper, which is attached to a scissor lift, wherein the scissor lift is attached on a shaft attached to the coupling, wherein when the shaft moves clockwise then the scissor lift gets expanded to drop the wiper over the panel and when the shaft moves rotates anticlockwise, then the scissor lift gets retracted to move the wiper upwards the panel.

Document D2 discloses a room UV decontamination system includes a door sensor configured for installing in relation to a door and detecting a status of the door to generate an output indicative of the status of the door; a presence detector for detecting a presence of a body in proximity to the door and generating an output indicative of a detected presence; UV decontamination hardware for applying a decontamination operation to a room, the decontamination operation including irradiating the room with UV radiation; and a controller in communication with the door sensor, the presence detector and the UV decontamination hardware, the controller being configured for performing a determination that safe conditions exist for the decontamination operation and initiating the decontamination operation at least in part based on the determination that safe conditions exist, wherein the determination that safe conditions exist comprises a confirmation that the presence detector is functioning properly. D2 however fails to disclose an elevator panel cleaning system includes a spraying

actuator spreads the cleaning agent over the panel after receiving information from the first sensor and the second sensor, wherein the spraying actuator includes Mist nozzles connected to a mini suction pump for spraying the cleaning agent on the panel.

Further, the document D2 nowhere mention about wiper movement is controlled by a scissor mechanism, which allows wiping operation of cleansing agent which cover rectangular area on the lift control panel.

Further, the document D2 is silent on scissor mechanism includes a stepper motor and a coupling for controlling the movement of the wiper, which is attached to a scissor lift, wherein the scissor lift is attached on a shaft attached to the coupling, wherein when the shaft moves clockwise then the scissor lift gets expanded to drop the wiper over the panel and when the shaft moves rotates anticlockwise, then the scissor lift gets retracted to move the wiper upwards the panel.

As D1 and D2 fail to disclose or suggest the amended features of claim 1, the subject matter as claimed cannot be held to lack inventive step in view of the cited documents. Thus, the subject matter as claimed in amended claim 1 is inventive over D1 and D2 either alone or in any combination thereof. Keeping in view the above, Applicant humbly requests for reconsideration and waiver of the aforesaid objection.

Response to Objection Part II (2):

The applicant respectfully submits that claims have been suitably amended to overcome the objections. More specifically, abbreviation of PIR sensor is clearly mentioned in the amended claims. Further, Passive infrared sensor (PIR) sensor is clearly described on 3rd para at page 7 of the original filed specification as highlighted below:

the sensor 1 is PIR detection sensor, with a detection angle of 120 degree and range of 3 m and the other sensor 1a is a UV sensor.

Keeping in view the above, Applicant humbly requests for reconsideration and waiver of the aforesaid objection.

Response to Objection Part II (3):

1. Reference numeral of drawings have been mentioned in amended claims to increase the clarity of claims.

2. The abbreviation 'IOT/IoT' has been removed from the amended claim.

3. The term 'NODEMCU LUA' has been removed from the amended claim.

4. Term 'FS-IR02' has been removed from the amended claim.

5-6. The term "PIR" is Passive infrared sensor and term "UV" is Ultraviolet which clearly described on 3rd para at page 7 of the original filed specification as highlighted below:

the sensor 1 is PIR detection sensor, with a detection angle of 120 degree and range of 3 m and the other sensor 1a is a UV sensor.

Keeping in view the above, Applicant humbly requests for reconsideration and waiver of the aforesaid objection.

Response to Objection Part II (4):

1. With regards to the section 2(1)(ja): All essential inventive features have been included in the amended claim 1 and claim1 has been characterized in order to define the inventive step of the present invention in respect of the document D1 and D2.

With regards to the section 10(4): The complete specification fully and particularly describes the invention u/r section 10(4) of The Patents Act,

1970. For instance, the following figures and their corresponding description clearly describes the invention: FIG. 1 illustrates perspective view of placement of components of the invention; FIG. 2 illustrates a scissor mechanism for operating the wiping mechanism according to an embodiment of the invention; FIG. 3 illustrates a block diagram for showing communication between all components of the invention. The applicant has further provided the operation details in the below paragraphs as listed on Page 8 of the specification:

A spraying actuator 5 spreads the cleaning agent over the panel after receiving information from the sensor 1. A duct from the cleaning agent storage vessel 2 opens to spray the cleaning agent through the spray actuator 5. Once, the spray actuator 5 is turned on, a means 6 for wiping the cleaning agent over the lift panel4 is turned on to wipe over the lift panel 4. The means 6 for wiping cleaning agent over the panel is a wiper which movement is controlled by a scissor mechanism 7 (shown in Figure 2)which allows spreading and wiping operation of cleansing agent which can cover rectangular area on the lift control panel. The scissor mechanism 7 comprises of a stepper motor 8 and a coupling 9 for controlling the movement of the wiper, which is attached to a scissor lift 10. The scissor lift 10 is attached on a shaft 11 attached to the coupling 9. When the shaft 11 moves clockwise the scissor lift 10 is expanded to drop the wiper 6 over the panel. When the shaft 11 moves rotates anticlockwise, the scissor lift 10 is retracted to move

the wiper 6 upwards the panel 4.Using scissor mechanism in wiper control unit allows flexible movement of wiper in the vertical direction and too makes whole electromechanical system compact and portable.

With regards to the section 59(1): Claims are fully supported by original specification and within the scope of original claims and specification, hence should be allowed. Mark up copy of amended claims is being submitted herewith.

2. It is submitted that no foreign applications have been filed. A form 3 indicating that no foreign applications have been filed is being submitted herewith. In view of above discussion, section 8(2) stands moot.

3. All the submitted documents and forms have been duly signed by the patent agent under the provisions of the Patents Act, 1970.

Keeping in view the above, Applicant humbly requests for reconsideration and waiver of the aforesaid objection.

Response to Part III- Formal Requirements:

Applicant submits the following to comply with the above objection:

1) Proof of right in endorsement of form 1 had already been submitted on 31st July which is within Six month of Filing the Patent Application and is in compliance with Section 7(2) of the Patents Act. Hence, we request the learned Controller to withdraw the objection.

2) It is respectfully submitted that captioned application is an ordinary application and is only filed in India and thus there exists no corresponding foreign application filed for this matter. The Applicant

humbly submits and undertakes that that they have not filed any foreign application corresponding to the instant patent application till date. Since, Form 3 was already filed on 02/07/2020 with indication of NO/NIL foreign filing declaration and subsequently till date there is no corresponding foreign filing. In the view of above submission, we request the Learned Controller of Patents to withdraw the Objection.

In view of the above and the documents enclosed, it is requested that the Objections of Part III shall be waived.

With the above, the Applicant believes that all the objections contained in the FER are appropriately addressed and hence, humbly pray for early grant of the Application. In the event the decision of the learned Controller of Patents is adverse to the Applicant, we humbly request that the Applicant be given an opportunity to be heard as per the provisions of Section 14 of the Indian Patents Act, 1970.

We thank you in advance for your cooperation in this regard.

Yours faithfully,

Dated 01/05/2022

Vikas Asawat
Patent Agent
INPA 1407
On Behalf of Applicant
Digitally Signed

Enclosure:

- Amended Claims- Marked Copy and Clean Copy