Patent Draft Guidelines

Patent Draft – Based on NIPO, Sri Lanka drafting guidelines

Please arrange your draft according to the sequence outlined below, and ensure you review the descriptions for each section before you begin drafting.

Title of the invention

This should be appeared as in the request (Form P01).
Should be consistent with the 1st claim of the patent

The title should be short and to the point – not too short; 'Control system' and'Chemical' are a bit too brief and uninformative; but
'Controlling fuel injection' and 'Heterocyclic compounds 'will do

Technical Field

Specify the technical field to which the invention relates. Field of the invention should describe the scopeof the invention and subject matter of the invention on which it relates.
This might begin with an indication of the **technical field** in question

Examples:

This invention relates to bicycles.

present invention generally relate to systems and methods for product level tracking of sheet product on a sheet product roll, and more particularly, for providing, e.g., retrofitting, sheet product dispensers with systems for automatic tracking of the quantity of sheet product remaining on the roll.

The present invention generally relates to the field of mechanically controlled directional devices and more specifically to a unique snake shaped mechanically controlled arm capable of utility across numerous fields of use.

Background art

Indicate the background art which, as far as known to the applicant can be regarded as useful for the understanding, searching and examination of the invention. Applicant/s can preferably cite the documents reflecting such art. This section should describe what others have done in the field, and what problems have not been solved by prior work. Prior art details obtained from patent databases such as granted patents and patent applications which have been filed all over the world as well as research publications could be referred to complete the background details.(Prior art means everything disclosed to the public, anywhere in the world, by written publication, oral disclosure, use or in any other way, prior to the filing ofthe present patent application).

Examples:

Eg: Another possibility using autologous graft material is to collect the bone dust during the craniotomy procedure and mix it with a hydrogel like fibrin glue and use that paste to fill out the defect after the procedure (Matsumoto, 1998).
US patent No.6,350,284 ('284) describes a bioabsorbable cranial implant consisting of a rigid plate and a fibrous web layer containing pores between 30 ……

Current endoscope technology has not changed much since it was first developed in the 1960s. By and large, the scope consists of a narrow, distal insertion section and a proximal hand-control section. The most distal portion of the scope is controlled by guidewires that run the length of the scope and that cause motion in the plane perpendicular to the general axis of the scope. However, this type of design suffers from numerous drawbacks.

One drawback that typical endoscope designs suffer from is lack of full and accurate spatial control. Typical endoscopes utilize a flexible scope that relies on being pushed forward and flexing with the geometry of the tube or cavity in which it is located. However, in a larger cavity it is often difficult to place the tip or tool of the endoscope in a desired location because fine spatial movement of the endoscope tip is difficult to control.

Technical problem

Specific technical problem/s address/es by the invention should be described allowing clear understandingof the technical problem/s.

Technical Solution

The solution/s provided through the invention should be described.

Brief description of drawings

Briefly describe the figures in drawings if any.

Eg. Fig. 1 shows a perspective view of an embodiment

Fig.2 shows a detailed view of an embodiment

FIG. 3 illustrates a robot arm assembly in a linear formation;

Advantageous effects

State the advantageous effects of the invention when compared to the existing solutions/ inventions.

Mode for invention

Disclose the invention in such terms that it can be understood and in manner sufficiently clear andcomplete for the invention to be evaluated as to its novelty, inventive step and industrial application andto be carried out by a person having ordinary skill in the art. The best mode for carrying out the inventionin terms of examples, where appropriate, and with reference to the drawings should be described.

The basis of the patents system is the grant by the state to the applicant of an exclusive right to exploit the invention. In exchange the applicant has to disclose the invention, or in other words to **provide a full description of how the invention works or how it is made.**

"Applicant describe the invention clearly and completely enough for it to be carried out by a person skilled in the art.

What the patent application has to do is to explain how the invention works **in sufficient detail for a person of ordinary familiarity with that particular technical field - to make it (if a product) or carry it out (if a process).** Hence this requirement is sometimes called 'sufficiency'

Claims that they must be 'supported by the description'.

If the description simply says that a component is made of 'metal', then the claims cannot say that component can be of aluminium or copper. So that's simply a matter of consistency; make sure that any detail in the claims is also in the description.

On the other hand, since the claims are generalisations of the described embodiments,if the description says a component is made of 'aluminium or copper' then that statement will

provide support for a generalisation of this, i.e. the claim can say that the component is made of 'metal'

Words in the description
Drafting the description is more of a technical than a legal exercise

Should be very careful of making absolute statements in the description involving such words as
'must' and **'always'**.

If you say the component 'must' be of metal, that means it's an essential feature of the invention and should arguably be in claim
If the temperature should 'always be 120 degrees', the same thing applies. This again is to do with maintaining consistency between what is said in the claims and what is said in the description
A detailed description of the invention (which may be illustrated by drawings, flowcharts, circuitdiagrams, chemical structure diagrams, photographs, computer graphics etc.

Example

US11104011B2 *Mechanical robot arm assembly*

1. *Reference will now be made in detail to exemplary embodiments of the present invention, examples of which are illustrated in the accompanying drawings. It is to be understood that other embodiments may be utilized and structural and functional changes may be made without departing from the respective scope of the invention. Moreover, features of the various embodiments may be combined or altered without departing from the scope of the invention. As such, the following description is presented by way of illustration only and should not limit in any way the various alternatives and modifications that may be made to the illustrated embodiments and still be within the spirit and scope of the invention.*
2. *A mechanically controlled arm **10** is generally presented, as shown in **FIG. 1**. The arm **10** is configured to navigate a spatial opening such as a cavity, tubular space, or the like.*
3. *As illustrated in **FIGS. 1-11** the arm **10** may comprise a plurality of joints **12** . The joints **12** may be formed of any appropriate material, such as plastic, polymer, and the like. The joints **12** may interconnect to form the arm **10** having a length defined between a proximal end **14** and a distal end **16** . The joints **12** may rotationally interconnect to one another to allow the arm **10** to navigate a spatial region, as described in further detail below.*

Industrial Applicability

State the industrial applications of invention.

Claims

The purpose of the claims is that they define the invention that believed to be new and an inventive (advance) over the prior art and hence claims define the monopoly that applicant will acquire as the holderof the patent. Each claim is usually drafted as a single sentence and must include all the essential constructional features that considered to be inter-related to result the invention. It means that there must be at least one main claim (Independent) which gives all the essential features and their inter relation. Other claims may introduce additional features of the invention if desired.

Important: Claims can be drafted only for technical features of the invention and commercial advantages or other non-technical matters cannot be stated. Claims must be clear and concise and be supported by the description and should be based on the description. This means the claims must be fully explained in the description. If there are several claims, shall be numbered consecutively in Arabic numerals. Claims should be drafted in correct format.

Each claim should consist of an introduction, linking word and body.

Generally the first claim is called as "Independent claim" which reflects the whole picture of the invention

The claim which depends on a claim or several claims is called dependent claim. Generally, the subsequentclaims of an independent claim are Dependent Claims.

Parts of the Claims

1. **Preamble**

Should be short, and should not imply any unnecessary limitations
Usually be consistent with title of the invention

Examples:

A potable water filtration device
A mechanical arm assembly
A bioabsorbable plug implant, suitable for bone tissue regeneration,

Transition term

Connecting term

"Comprising" (including)– encompasses additional elements

"Consisting essentially of" - encompasses additional elements that do not affect the essential features of the invention

"Consisting of" – does not encompasses additional elements

Examples:

Comprising, including consisting, Containing

Body

Cover all essential elements; component or steps, and their limitations

Recite the elements to each other

First claim (Independent claim), describe the invention with the name and mentioned each of the part/unit in words comprising and brief the use of each unit/part which are needed to complete this invention.

It is a MUST start the first claim with "A" for NIPO applications.

Examples:

1. *An aerobic digestion toilet (1) including a chamber (2), a toilet bowl (3) above the chamber (2) having an outlet vent (4) and means (4;8) for generating convection flow through the chamber (2) from adjacent the floor thereof through the outlet vent (4) from*
2. *An electric fuel hybrid multirotor type unmanned aerial vehicle, comprising an UAV frame, a main rotor (2).....*
3. *A bioabsorbable plug implant, suitable for bone tissue regeneration, comprising a first portion, and second portion , the first and second portions formed from expandable material,*
4. *A process for preparing an extract of a plant of the genus Trichocaulon or of the genus Hoodia, the extract comprising an appetite suppressant agent, the process including the steps of treating collected plant material with a solvent to extract .....*

5. *A mechanical arm assembly comprising: a plurality of joints interconnected to form the mechanical arm assembly, the plurality of joints comprising a first joint, one or more intermediate joints, and a terminal joint connected in consecutive series and each configured to rotate with respect to any respective adjacent joints; wherein each joint includes a base, a top, and a sidewall interconnecting the base and the top; wherein a normal plane of each joint is defined as generally perpendicular to the sidewall and wherein the base and top each are arranged at an angle with respect to the normal plane; wherein the first joint is configured with its base generally parallel to its normal plane and its top at an angle between 10 and 80 degrees with respect to its normal plane; wherein the intermediate joints are configured with their bases at an angle between 10 and 80 degrees in a first direction with respect to their normal plane and their tops at an angle between 10 and 80 degrees in a second direction, opposite the first direction, with respect to its normal plane; wherein the terminal joint is configured with its base at an angle between 10 and 80 degrees with respect to its normal plane and its top generally parallel to its normal plane; and a head protruding perpendicularly from the base of each joint; and one or more control wires each connected to the head of a single joint, wherein the control wires are wound around the head, wherein mechanical movement of the control wires is configured to impart rotational movement on its corresponding joint to rotate the joint with respect to an adjacent joint and around an axis that is normal to the top of an adjacent joint.*

In other claims (dependent claims), have to have a link to the main claim. Dependent claims write in a wayas below

"invention name/the product or process need to protect" according to claim no 1 wherein said "the partyou want to describe". Dependent claims start from "The" for NIPO applications

Examples

1. *The aerobic digestion toilet as claimed in claim 1, in which the tray (21) is inclined at different angles along its length being at a steeper angle adjacent the conveyor (16) than the remainder of the tray (21)remote from the conveyor (16).*
2. *The electric fuel hybrid multirotor type unmanned aerial vehicle according to clam 1, wherein said one or more yaw compensation motors which attached to the arms of the UAV*
3. *The plug implant of claim 1, wherein the plug implant has a completely interconnected porous architecture*
4. *The process as claimed in claim 1 wherein the plant of the genus Trichocaulon is selected from the species*

The mechanical arm assembly of claim 1 further comprising an end tool connected to the terminal joint.

The mechanical arm assembly of claim 1 further comprising a head protruding from the base and an opening in the top of each intermediate joint and the terminal joint, wherein the head of each intermediate and terminal joint is each configured to be inserted into the opening in the tops of the respective adjacent intermediate or base joints.

When both product and process are covered from a single patent, able to write two independent claims;

1st set of claims, product independent claims followed by product dependent claims

2ns set of claims, process independent claim followed by process dependent claims

Examples

1st product independent claim; A microplant for water treatment comprising; primary sedimentationcompartment divided by

12th process independent claim: ; A method for treatment of wastewater comprising; retention of wastewater

Abstract

The abstract is a brief summary of the invention. It should be a summary of the disclosure as contained in the description, the claims and any drawings. The abstract shall be as concise as the disclosure permits (preferably 50 to 150 words).

Drawings

The drawings show the technical details of the invention in an abstract and visual way. Drawings are not always a necessary part of the application. If the invention is for a process or a method of doing something,drawings usually are not required.

· The drawings shall not contain text matter except to the extent required for the understanding of thedrawings.
· Drawings shall be executed in well-defined, lines and strokes.
· All numbers and reference lines should be appeared clear.

· The same sheet of drawings may contain several figures.
· The different figures shall be numbered consecutively and independently of the numbering of the sheets.
·
· Reference signs not mentioned in the description shall not appear in the drawings, and vice versa.
· If the drawings contain a large number of reference signs, it is strongly recommended to attach aseparate sheet listing all reference signs and the features denoted by them.
· Flow charts may be used, specially for process patents.
· Line drawings showing side view, corner view to clearly understand the invention.
· Use numerical notations to identify components inside a drawing. (Link them with claims and thedescription section)
· Here are some points to bear in mind when preparing drawings:

· The drawings may show details of a mechanical device, a chemical structure, aflowchart, a circuit diagram – in fact whatever is the clearest way of helping the reader to understand the invention

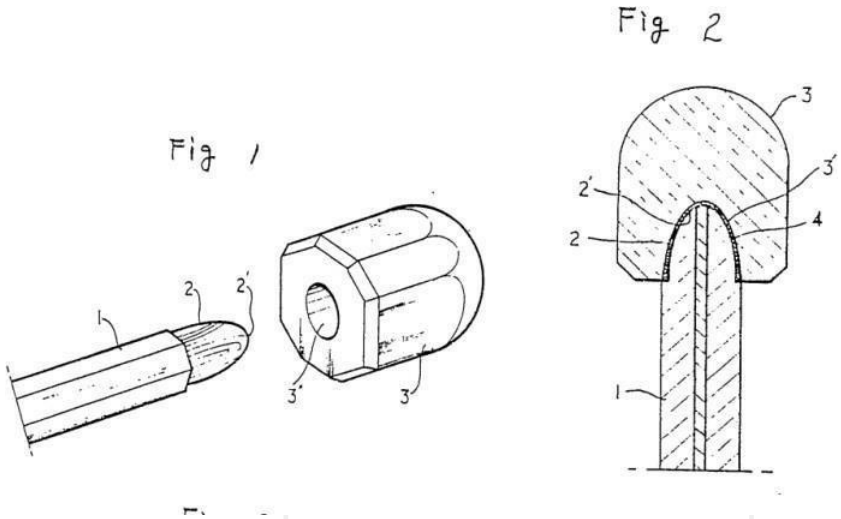
The level of detail shown in the drawings will again depend on the invention

In a simple invention such as the pencil and eraser example shown below, Figure 1 of the drawings shows a three-dimensional view of the invention, and Figure 2 a cross-section. Everything is illustrated, but note that no dimensions are given, since they are not necessary to understand the invention. Parts of the invention referred to in the description should be indicated by reference numerals, so that the description can refer for example to a pencil 1 and an eraser 3.

Each reference numeral should indicate the same part in all the drawings

These are not engineering drawings, they can be relatively informal

In the case of a method or process, the invention might be best illustrated by a flowchart.



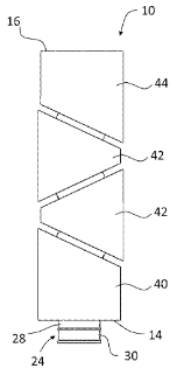


FIG. 1

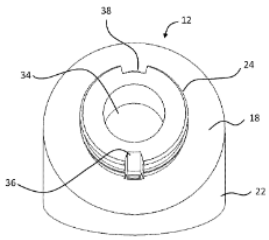


FIG. 2a

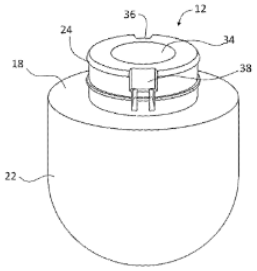


FIG. 2b

As noted above, as well as drawings, the description may be illustrated by flowcharts, circuitdiagrams, chemical structure diagrams, photographs, computer graphics etc.