

The Patents Act, 1970
Qualifying Examination under Section 126 of the Patents Act, 1970
(As amended and along with the Patents Rules, 2003)
Drafting and interpretation of Patent specification and other Documents.
(All questions are to be answered)
(Marks of each question are indicated at the end of the question)

NOVEMBER, 2003

Paper -- II
Time -- 2 ½ Hours

Total Marks -- 100

Q. 1. Answer any 5 (five) questions (each question carries equal marks)

- a) Your client's application for Patent has been filed on April 01, 2003. Now due to introduction of section 11B, a request for examination is necessary to proceed further with the application, moreover publication of application under section 11A is also due. In view of the above write an intimation letter to your client with the information about various proceedings under the Act.
- b) Your client, a pharmaceutical company from Mumbai who has filed an application for Patent under Section 5 (1) of the Act, is now accepted and notified in the official Gazette. The term of patent is now 20 years from the date of filing in place of 7 years from the date of patent. Advise your client about the information and further requirements.
- c) Your associate from Canada informs you that their client is interested in filing a national phase application for patent in India. Advise your associate regarding requirements of the Patent Office for filing the same in India.
- d) Your client M/s. ABC a partnership firm whose partners are Mr. Amar, Mr. Babbar and Mr. Chunilal, 75, Cross road, Mumbai informs you that they are interested in filing an international application for patent under PCT as first filing. Advise you client regarding the time period, various fees, necessary documents and other requirements under PCT for filing the same.
- e) You have received the first statement of objections from the Patent Office for application for Patent of your client stating amongst other objections that "the alleged invention relating to atomic energy is not patentable under section 4 of the Act". Write a letter to your client explaining the consequences thereof and further actions, which you are likely to take on the same.
- f) Your client Mr. K.K. Rao from Hyderabad informs you that he wishes to file an application for patent outside India and enquires about the procedure for obtaining prior permission of the Govt. of India. Write a letter advising your

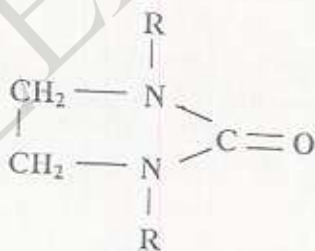
client explaining about the reintroduction of the section 39 with effect from 20.05.2003 by the Patents (Amendment) Act, 2002 and the contents thereof, with action to be taken.

(55)

Q.2. Your client "SONJA INCORPORATED" a corporation and existing under the Laws of the state of Minnesota, USA, of 251 Outer Road, Minneapolis, Minnesota 777, USA requests you to send a General Power of Authority (GPA) under the Patents Act, 1970 for his authorization for protecting all of their inventions on your name. Prepare the required GPA under the Act, you may send to your client.

(15)

Q. 3. Your client M/S XYZ limited, 2-5 Kasumigaseki 3-chome, Chiyoda-KU, Tokyo, a Japanese company, furnishes the following information:
Our R & D unit has developed an improved process for the preparation of 1,3-dialkyl-2-imidazolidinone (DMI) which is a very useful substance as a polar, nonprotonic solvent and forms complex with many inorganic salts. The product DMI is an excellent solvents for various high molecular weight substances and also used as solvent for many organic reactions.
The production of 2-imidazolidinone by reacting ethylenediamine with urea has so far been industrially possible, but it is not easy to dialkylate 2-imidazolidinone into 1,3-dialkyl-2-imidazolidinone. Further in the case of the production of DMI by reacting N,N'-dimethylethylenediamine with urea, yield is so low that the process has been commercially unsatisfactory.
The product is represented by the formula:



Where R represents $-\text{CH}_3$, $-\text{C}_2\text{H}_5$, $-\text{C}_3\text{H}_7$ or $-\text{C}_4\text{H}_9$

So the object of the invention is to provide improved process for producing 1,3-dialkyl-2-imidazolidinone directly from N,N'-dimethylethylenediamine and urea with a high yield having prolific commercial productivity.

A specimen example of the process is given below, but the invention is not limited to that only.

Example:

into a 500 ml steel autoclave were fed N,N' -dimethylethylenediamine (88.1g, 1.0 mol) and urea (60.1g, 1.0 mol). The reaction temperature was raised upto 210°C uniformly over about 30 minutes and reaction was carried out at the temperature for 3 hours. The pressure inside the system reached $14.5 \text{ kg/cm}^2\text{G}$ as the highest pressure. After completion of the reaction, the reaction fluid was distilled and about $2/3$ of the quantity of DMI was distilled off, crystals deposited in the still residue was filtered off, followed by successively distilling the filtrate to obtain a DMI fraction (192.7g) having a purity of 99.5% according to gas chromatography (yield: 80.8%).

All the above relevant features of the invention stated should be protected by patent in single application.

Draft a complete specification for the process of above said invention to be filed in India.

OR

Your client M/S ABC limited, Im Stadtsfeld 90, 4370 Dorsten , a German company, furnishes the following information:
Our company has invented a new aerating device for liquid to be used for the purpose of floatation of coal and other materials requiring this kind of processing. It is known that the device of this type are used for floatation in order to separate the solid particles in a slurry from one another.

The solid particles which are less easily wetted become attached to air bubble which are generated in aerating devices by means of gasifiers, injectors or reactors. The solid particles attached to the air bubbles are usually discharged over the edge of the separating or floatation vessel. To facilitate the attachment of solid particles to the air bubbles during floatation, it is desirable to keep the size of air bubbles as small as possible in all the aeration devices which results in high consumption of energy and having low degree of selectivity for the attachment.

The invented device dispenses with the above disadvantages. The aeration device as per the invention allows higher degree of selectivity and in the process the specific energy consumption is reduced.

The inventive device is illustrated in the Fig.1 of the drawing in which:
Reference letters represent as under:

- 1.....connecting flange to slurry line.
- 2.....distribution cone.
- 3.....lower part of the housing.
- 4.....air chamber with annular air outlet.
- 5..... flange.
- 6..... dispersing stage.

- 7.....upper part of the housing.
 8.....helical fin for rotational flow.
 9.....holding device.
 10.central section.
 11.....annular channel.
 12.....exit point from the housing.
 13.....spacer rings to vary gap width of air outlet.
 Q₁.....inlet diameter of the aeration device.
 Q₂.....maximum diameter of distribution cone.
 Q₃.....constant gap width.

The aerating device of the invention is in the form of an annular injector having a housing (lower part-3 and upper part-7) through which the liquid flows and in which a central section (10) with fins is arranged to form an annular channel (11) together with the housing. The annular channel leads to air outlet (4) located in the wall of housing; the cross section of the annular channel is narrowest at the point of air outlet openings which abruptly widens and merges into the mixing and dispersing stage of the device extending up to the outlet from the housing.

The speciality of the invention lies with the fact that the fins attached to the central section or to the upper section of the housing superimposes a rotational flow on the axial flow of the slurry-air mixture which in turn is advantageous in facilitating the attachment of the particles of solids to the air bubbles leading to reduction in energy consumption.

Draft a complete specification, for your client including statement of claims (drawing enclosed).

(30)

(TOTAL PAGES - 5, INCLUDING THE DRAWING)

(End)