# PATENT AGENT EXAMINATION, 2022 [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 C1 of 20 marks and C2 of 30 marks. Part C1 consists of 2 questions and the candidate is required to answer any one of them, Part C2 consists of 2 questions and the candidate is required to answer any one 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

**Q1.** Explain the importance of prior art search before filing of patent application and drafting of specification.

**Q2.** Suma is a home maker in rural Karnataka. She has a patent for a fish feed formulation. She has been selling the patented product through e-commerce platforms and has got very encouraging feedback from market. Suma has now realized that the addition of 10 % by weight of coconut oil into the formulation extends disintegration time for fish feed pellets in water. Suma knows that addition of coconut oil into the fish feed formulations to extent disintegration is well known in the art. Nevertheless, she approaches you seeking means to protect this improved/modified formulation. How would you advice her?

**Q3.** Mr. Gopi, an applicant from Madya Pradesh, filed a Patent application in his individual capacity along with the request for Examination. Patent office has issued First examination report (FER) wherein some documents were cited to prove that invention lacks Novelty and Inventive step. Gopi now realized that many features of the invention were not disclosed in the specification at the time of the original filing. Gopi asked you to incorporate the missing features in the original specification.

(a)Explain to Gopi the procedure to make voluntary amendments under the Patents Act.

(b) Briefly discuss whether Gopi can make use of such provisions for voluntary amendments in above scenario.

**Q4.** An application was filed with a provisional specification (PS) by a MSME in Ladakh. Subsequently, the MSME made further developments to the invention disclosed in the PS contributed by Bikram, a citizen of Nepal, who joined the MSME after the provisional had been filed. The MSME seeks your advice-

(a) whether improvements can be included in the complete specification?

(b) if Bikram can be mentioned as Inventor while filing complete specification (CS)?

## PART B

## 3 questions \* 10 marks= 30 marks

**Q5.** (a) Ujjwal, an enterprenuer and owner of startup "UJWsolar", has developed a cheap solar based battery. He wishes to have patent for said invention at the earliest. Ujjwal came to know about expedited examination. Explain the same as per the provisions of the Patents Acts and Rules.

(b) In another patent application Ujjwal has already filed a request for examination. The application has been awaiting examination for a long time. If he wants that application to be taken for examination immediately what steps are required?

**Q6.** Your schoolmate Gopika is now a final year student at an engineering college at Chennai. She has invented dust repellant coating composition for solar panels. Her engineering college has agreed to pursue a patent application for the said invention. How will you explain to her the most important aspects of prosecuting a patent application in India upto grant, with the relevant forms, fees and time limits?

**Q7.** CropPro is a pesticide manufacturing company based in South Korea. CropPro developed a pesticide composition comprising ingredients A and B to mitigate earworm infestation in tomato plants. CropPro identified that when A and B are used in a ratio of 25-30% and 75-70% respectively, the pesticide composition not only mitigated worms but also improved the flowering rate. Patent application was filed with a single claim-

"1. A pesticide composition comprising A and B."

Patent office has cited a prior publication in the first statement of objections (FER) which discloses a pesticide composition comprising 5- 55 wt% A and 95-45 wt. % B for mitigating earworm infestation in tomato fields.

(a) How will you respond to this FER?

(b) If the complete specification did not have any examples evidencing increase in flowering rate, how can CropPro provide further evidence?

### PART C

Part C1 consists of 2 questions and the candidate is required to answer any 1 of them. Part C2 also consists of 2 questions and the candidate is required to answer any 1 of them. In case a candidate answers more questions than required, the first attempted question will be evaluated.

#### Part C1

After reading the specification:

i. Provide an appropriate title,

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

iii. Draft 2 claims

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### 1 X20 M = 20 marks

**Q8.** Diclofenac (2-(2-[2,6-dichlorophenylamino]phenyl)acetic acid) is one of the most widely used non-steroidal anti-inflammatory drugs due to its marked pharmacological activity. Thiocolchicoside, also known as 3-demethyl-thiocolchicine glucoside, is a glucoside extracted from the seeds of Colchicum autumnale, which possesses a muscle-relaxant, anti-inflammatory, analgesic and anaesthetic action. The prior art 1 demonstrates that diclofenac is a substance which is relatively unstable in solution, and that the liquid formulations of said substance therefore require the presence of a stabilising agent. The patent prior art 2discloses stable aqueous solutions of diclofenac containing a mixture of propylene glycol and polyethylene glycol. The chemical stability of said solutions is obtained by adding a reducing agent which can be a sulphite, such as sodium bisulphite, cysteine and/or cysteine hydrochloride, acetylcysteine and/or acetylcysteine hydrochloride, or a thiosulphate. Their chemical stability is further improved by the presence of lidocaine in addition to the reducing agent. When preparing a liquid composition containing diclofenac and thiocolchicoside, the inventors of the present application have found that it is necessary to overcome a number of technological difficulties, the most important requirement being to prevent the degradation of one or both of the active ingredients when formulated in a single unit dose solution. The antioxidant most widely used to

2

stabilize diclofenac in liquid solutions is sodium bisulphite. There are numerous formulations on the market containing this antioxidant. Other antioxidants used are cysteine, acetylcysteine and reduced glutathione. Thiocolchicoside also presents stability problems in solution. The chemical and physical compatibility of thiocolchicoside with other injectable medicaments frequently combined with it, including anti-inflammatories, is described in prior art 3. The authors of the present invention have found that the addition of thiocolchicoside to a formulation containing diclofenac makes the use of the above-mentioned antioxidants problematic, if not impossible, as their presence in the solution causes significant degradation of thiocolchicoside and diclofenac under ambient and supra-ambient storage conditions (40°C). As the number of antioxidants suitable for parenteral/injectable use is limited, the impossibility of using said stabilizing agents makes it very complex to obtain formulations which are potentially stable under the conditions required by the health authorities when the product is registered. Tert-butyl-4-hydroxyanisole, also known as butylated hydroxyanisole or BHA, is an antioxidant widely used in the food and pharmaceutical industry. It is used in fats and oils, foods containing fats, essential oils, and food packaging materials. BHA is a mixture of two isomers: 2-tertbutyl-4-hydroxyanisole (2-BHA) and 3-tert-butyl-4-hydroxyanisole (3-BHA). The present invention solves the technical problem of the instability of liquid formulations containing a combination of diclofenac and thiocolchicoside. Accordingly the composition of the invention contains tert-butyl 4hydroxyanisole (BHA) as antioxidant. Diclofenac is preferably present in the composition as sodium salt. The composition of the invention can optionally also contain excipients suitable for pharmaceutical use, such as mannitol and sorbitol, and can also contain a local anaesthetic, such as lidocaine. The composition according to the invention can also contain solubilising agents, chelating agents, buffering agents or pH correctors, such as sodium or potassium hydroxide, sodium bicarbonate, tromethamine, mono ethanolamine or other organic bases. In one embodiment of the invention the composition takes the form of an aqueous solution consisting of a mixture of water and propylene glycol. In a preferred embodiment of the invention the composition takes the form of an aqueous solution containing propylene glycol and diclofenac sodium salt. Diclofenac sodium salt is preferably present in the composition in quantities ranging from 25 to 75 mg per unit dose administered. Thiocolchicoside can be present in the composition in quantities ranging from 1 to 10 mg per unit dose administered. BHA can be present in the composition in quantities ranging from 0.1 to 1.2 mg per unit dose administered. The excipients mannitol or sorbitol can be present in the composition in quantities ranging from 6 to 32 mg per unit dose administered. Propylene glycol can be present in the composition in quantities ranging from 800 to 2000 mg per dosage unit. In a preferred embodiment of the invention the composition contains diclofenac sodium salt at the concentration of 18.75 mg/mL, corresponding to a dosage unit amount of 75 mg, and thiocolchicoside at the concentration of 1 mg/mL, corresponding to a dosage unit amount of 4 mg. A further aspect of the invention relates to the use of the composition according to the invention for the treatment of rheumatic or traumatic pain and inflammation of the joints, muscles, tendons and ligaments. The composition according to the invention can be administered in dosage unit amounts of 75 mg of diclofenac sodium and 4 mg of thiocolchicoside once or twice a day.

# OR

**Q9.** A regular electronic mosquito racket generally comprises a frame body, a grip, and a shaft. The frame body holds a charged mesh on the inside. The grip houses a battery, which is electrically connected to the charged mesh, and an on/off switch, which controls electrical connection between the battery and the charged mesh. The shaft is a hard rod member connected between the frame body and the grip. When the user presses on the on/off switch, an electric current goes through the charged mesh to kill insects that touch the charged mesh. However, because the shaft of the aforesaid electronic mosquito racket is a hard rod member, the speed of the swiping motion of the electronic mosquito racket is not fast enough, and the operation angle will be limited, so the insects may escape before touching the charged mesh. Further, when the user swiping the electronic mosquito racket to kill insects staying on a wall, shocks produced when the frame body touches the wall will be transmitted to the user's hand. At this time, the shaft may be damaged, or the user's hand may feel uncomfortable. Therefore, this prior art design is not satisfactory in function.

As depicted in the attached images, the electronic mosquito racket in accordance with the present invention comprises a frame body, a grip and a shaft. The frame body comprises two open frames arranged in a stack, and an internal charged mesh set within the open frames. The grip is a hollow member for enabling the user to grasp with the hand. The grip houses a power control unit, which comprises a battery set (not shown) and an on/off switch (not shown) for control electrical

connection between the battery set and the internal charged mesh of the frame body. The shaft is a flexible member made out of plastics, rubber, carbon fibers, or any other suitable materials. According to the present preferred embodiment, the shaft is molded from plastics, having one end fixedly connected to the frame body and the other end fixedly connected to one end of the grip. Further, the shaft houses an electric circuit that is electrically connected between the internal charged mesh and the battery set in the grip. Further, the shaft has a plurality of grooves extending around the periphery and spaced along the length of the shaft to enhance the flexibility of the shaft.

The mosquito bat when using the electronic mosquito racket to kill insects, hold the grip with the hand and press on the switch to power the internal charged mesh by electric current, and move the electronic mosquito racket to hit bugs, flies, mosquitoes, and harmful insects. Because the shaft is a flexible rod member, operate the electronic mosquito racket with a swiping motion causes the shaft to vibrate, enhancing the swiping speed. Further, the grooves around the periphery of the shaft enhance the flexibility of the shaft. When an insect is staying on a wall, the user must move the electronic mosquito racket toward the wall. When the open frames of the frame body touch the wall, the shaft will be curved to absorb shocks, preventing damage to the shaft or potential injury of the hand.



## 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, do not redraw the figures. However, you may refer to the figures in the specification as Fig. 1, Fig. 2 and Fig. 3 etc.

#### 1 X 30 M = 30 marks

**Q10.** PET bottle containers for selling beverages such as fruit juice, tea, and water are made of polyethylene terephthalate (PET) blow-molded bottles and caps made of polyethylene (PE) or polypropylene (PP) by injection molding. The PET bottle body is light, strong and transparent, and is excellent as a beverage container. The bottle body is filled with a beverage from the mouth at the upper end, and a lid is screwed into the threaded mouth of the bottle body to seal the beverage and keep it aseptic. The PET bottle container containing the beverage is opened by removing the lid from the threaded mouth of the bottle body, opening the bottle body with the person who drinks the threaded mouth of the bottle body, tilting the bottle body, and drinking the bottle body beverage to drink. When the drink is empty, the bottle body and lid are separated and discarded. The discarded bottle body is crushed, washed, and reused as a raw material. When the beverage is left undrinked, the plastic bottle container for the beverage is screwed into the threaded opening of the bottle body and stored. Then, open and drink the remaining beverage.

In prior art, it has been considered to adhere an antibacterial titanium oxide photocatalyst powder to the mouth of the bottle body in order to make the remaining beverage unhygienic when drinking. PET bottle containers are not hygienic after opening because the bottle body and lid do not have antimicrobial properties. PET bottle containers without antibacterial properties require timeconsuming cleaning after drinking. They are not collected after drinking, washed, and reused as PET bottle containers. Unlike glass bottles of milk, sake or beer, it is not a returnable bottle that can be washed and used many times. Even at home, it seems that washing a PET bottle container after drinking and reusing it as a beverage container is rarely performed.

In addition, in the PET bottle container, when drinking the remaining beverage, if the elapsed time after opening is long, various bacteria may be propagated. It is unsanitary. In the PET bottle container disclosed in prior art, a photocatalyst used as an antibacterial agent does not exhibit an antibacterial effect unless light having predetermined characteristics is applied. Since the mouth of the bottle body is covered with an opaque cap-shaped lid, the photocatalyst attached to the mouth of the bottle body is hardly exposed to light and hardly exerts an antibacterial action. The powder of the titanium oxide photocatalyst attached to the mouth of the bottle body is easy to fall off.

The PET bottle body loses its superiority as a beverage container if it loses its properties such as being light, strong and transparent because of its antibacterial properties.

Antibacterial molded articles of polyethylene or polypropylene kneaded with silver zeolite powder as an antibacterial agent are known. However, there is no known antibacterial molded product of polyethylene terephthalate into which silver zeolite powder as an antibacterial agent has been kneaded. Then, a granular masterbatch of polyethylene terephthalate mixed with silver zeolite powder as an antibacterial agent was prepared, and a bottle body of a blow molded article was prepared using the granular masterbatch as a raw material. Then, it was found that an antibacterial bottle body having characteristics such as lightness, strongness, and transparency was obtained.

A PET bottle container comprising a bottle body of a molded article of polyethylene terephthalate and a lid of a synthetic resin molded article in a cap shape screwed into a threaded opening of the bottle body. The bottle body is a molded product of polyethylene terephthalate kneaded with silver zeolite as an antibacterial agent and has antibacterial properties on the inner and outer surfaces. The lid is a molded article of a synthetic resin into which silver zeolite as an antibacterial agent has been kneaded, and is characterized in that the inner surface and the outer surface have antibacterial properties. The main body of the bottle is a blow molded product made of a granular masterbatch of polyethylene terephthalate mixed with silver zeolite powder as an antibacterial agent. The lid is an injection-molded product made of a granular masterbatch of polyethylene or polypropylene mixed with silver zeolite powder as an antibacterial agent. The PET bottle container of the present invention is sanitary even after opening since the bottle body and the lid have antibacterial properties. It is also hygienic when drinking leftover beverages. This PET bottle container is easy to clean after drinking. It can be washed and reused as a PET bottle container. Unlike the photocatalyst, silver zeolite, which is an antibacterial agent, has antibacterial properties even in dark places where light does not shine. The mouth of the bottle body is antibacterial even when covered with a lid. Further, silver zeolite as an antibacterial agent is kneaded into polyethylene terephthalate or a synthetic resin, and is hard to fall off.

As shown in FIG. 1, the PET bottle container includes a bottle main body 1 of a blow molded product of polyethylene terephthalate and a lid 4 of an injection molded product of polyethylene or polypropylene. The polyethylene terephthalate and the polyethylene or polypropylene are each kneaded with silver zeolite powder as an antibacterial agent. The bottle body 1 and the lid 4 have antibacterial properties on the inner surface, the outer surface, and the entire surface, respectively.

The bottle body 1 has a body portion 2, a mouth portion 3 formed at an upper end of the body portion 2, and a screw formed on an outer peripheral surface of the mouth portion 3. The body 2 has a cylindrical shape with a bottom, and has dimensions suitable for being grasped by hand. The mouth 3 has a cylindrical shape, and has dimensions suitable for being held by the mouth. The bottle body 1 is light and strong as a beverage container, and the body 2 having a thin structure is transparent. The lid 4 is formed in a cap shape, and has a screw formed on the inner peripheral surface. The lid 4 is screwed into the mouth 3 of the bottle body 1 and closes the upper end opening of the mouth 3.The method for manufacturing the bottle body 1 is to prepare a granular masterbatch of polyethylene terephthalate mixed with silver zeolite powder as an antibacterial agent, form a preform using the granular masterbatch as a raw material, and divide the preform into two parts. Blow molding using a mold. The method of manufacturing the lid 4 is to prepare a polyethylene or polypropylene granular masterbatch mixed with silver zeolite powder as an antibacterial agent, and to perform injection molding using the granular masterbatch as a raw material. Silver zeolite is an inorganic antibacterial agent in which silver, an antibacterial metal, is held on a porous synthetic zeolite as a carrier by ion exchange. The mixing ratio of the silver zeolite powder is 20 to 25% by weight.

In this PET bottle container, the bottle body 1 is filled with the beverage from the mouth 3, the lid 4 is screwed into the threaded mouth 3, and the beverage is sealed and kept in an aseptic state. When drinking a beverage, the lid 4 is removed from the threaded mouth 3 and opened, and the person who drinks the threaded mouth 3 holds the mouth, tilts the bottle body 1 and drinks the beverage in the

bottle body 1. If there is any drink left, the lid 4 is screwed into the threaded mouth portion 3 to save the drink. Then, open and drink the remaining beverage. The bottle body 1 and the lid 4 that have been emptied after drinking can be washed and reused as a PET bottle container.FIG. 1 is a longitudinal sectional end view of a PET bottle container according to an embodiment of the present invention.

DESCRIPTION OF SYMBOLS 1 Bottle main body 2 Bottle main body part 3 Bottle main body threaded mouth 4 Cap-shaped lid.



Q11. A face mask having a band with ear loop attachments as well as drop down support for when the mask is not being worn. Face masks that cover the nose and mouth of the wearer to filter air and/or prevent the spread of germs are well known. Masks take on many forms, including disposable molded masks that substantially fit the contour over the bridge of the nose and around the mouth of the wearer, and flexible masks used for surgery. Masks typically include one or more bands for attachment around the back of the head to retain the mask over the wearer's nose and mouth. Other masks provide for an ear loop attachment wherein bands extending from the side of the mask loop around the back of the wearer's ears.

There are advantages associated with providing a mask that attaches over the wearer's ears rather than looping around the back of the head. The mask may be easier to don and doff. In addition, bands which extend around the back of the wearer's head may be less appealing to many wearers because the bands may become entangled in the wearer's hair or otherwise ruin the wearer's hair style.

In addition to providing a mask that is retained by ear loops, it is also known to provide a drop down band on the mask. A drop down band allows the mask to be retained around the wearer's neck when the mask is not being worn over the nose and mouth. In this manner, the mask is retained at the wearer's chest and does not need to be stored. This provides for quickly accessing the mask to reposition over the wearer's nose and mouth. The drop down feature also frees the wearer's hands to perform other tasks. If a mask is inconvenient to don and doff or is not readily available and accessible when not worn, the wearer is less likely to put the mask on, creating health hazards.

The present invention is directed to a face mask that covers the nose and mouth of the wearer and that has an ear loop support and a drop down band. Masks that cover the nose and mouth of the wearer and use a band for retaining the mask over the nose and mouth are well known. The masks may be molded, made of a flexible fabric, or use other configurations for fitting over the nose and mouth that require a retaining band. The present invention utilizes a band that is configured for extending around the ears of the wearer to support the mask against the wearer's face over the nose and mouth.

The band attaches at each side of the mask near either the upper or the lower portion. An orifice or other retainer guide that provides for slidably retaining the band is located at each side of the mask and in spaced apart relationship to an attachment point for each end of the band. The band may be continuous around the back of the neck or separate sections may tie or clip together. This configuration provides for four attachment points and comfortable and secure positioning of the mask against the face of the wearer. The band preferably includes an elastic end portion or may be entirely made of elastic material. The band fits around the back of the ears of the wearer to retain the mask in position and provides for adjusting to a variety of sizes. When not worn, the band extends around the back of the neck of the neck of the mask in an accessible position at the front of the wearer. FIG. 1 shows a perspective view of a first embodiment of a mask according to the principles of the present invention being worn;

FIG. 2 shows a perspective view of the mask shown in FIG. 1 having an alternate band mounting configuration dropped down and supported around the neck of a wearer;

FIG. 3 shows a front elevational view of a second embodiment of a mask according to the principles of the present invention;

FIG. 4 shows a front elevational view of the mask shown in FIG. 1; and,

FIG. 5 shows a front elevational view of the mask shown in FIG. 2 having the alternate band mounting configuration.

As shown in FIG. 1, a mask 10 includes a cup-like mask body 12 typically made of fibrous filter material and molded to fit over the mouth and nose of a wearer, generally following the contour of the wearer's face. The mask body 12 includes an upper portion 16 and a lower portion 18 as well as side portions 20, as shown more clearly in FIG. 4. A nose clip 22 is utilized to provide additional forming over the bridge of the wearer's nose. Fabric-type fibrous filtering material of the mask body 12 removes particulates from the air, providing a breathable air supply.

As shown in FIG. 1, a band 24 attaches at an upper point by means of staple or other fastener 34 and loops around the ear of the wearer. After looping around the ear, the band 24 extends to the front of the mask 10 through a lower orifice 32 or other band guide in the mask body 12 and extends around the back of the neck of the wearer. It can be appreciated that the band 24 should be sized for the wearer or may be adjustable or should include at least some elastic material to provide a snug fit. In the preferred embodiment, at least the end portions 26 extending between the upper fastener 34 and the lower orifice 32 has elasticity. This elasticity of the band 24 also provides sufficient flexibility to fit a range of head sizes.

As shown in FIGS. 4 and 5, it can be appreciated that there are multiple mounting configurations possible with the present invention that provide an ear loop attachment and a drop down band. In the embodiment shown in FIGS. 1 and 4, the band 24 is fixedly attached by staples 34 or other well known fastening devices at the sides 20 near the upper portion 16 of the mask body 12. The band 24 extends through the orifices 32 at the sides 20 spaced apart from the staples 34 and near the lower edge 18. The band 24 extends around the back of the neck of the wearer and the mask 10 as shown in FIG. 1. The band 24 may be a continuous element or have two sections that may be clipped, tied or otherwise releasably fastened around the back of the neck. The band may also have a slidable length adjustment.

Referring to FIGS. 2 and 5, the band 24 can also be mounted in a reversed orientation using fasteners such as staples 36 near the lower portion 18. Orifices 30 or other guides are positioned at the sides 20 near the upper portion 16 of the mask body 12 in spaced apart relationship to the lower fasteners 36. With this configuration, the band 24 fastens near the lower portion 18 and extends up through the orifices 30 near the upper portion 16. With this mounting configuration, the band 24 extends from the lower fastener 36 around the ears and through the upper orifice 30 when worn. When not worn over the nose and mouth, the band 24 extends around the neck of the wearer from the upper portion of the mask body 12 so that the drop down retention feature is maintained.

Referring now to FIG. 2, when not worn over the nose and mouth, the mask 10 is supported by the band 24 extending around the back of the neck of the wearer. The band 24 shown in FIG. 2 includes two sections joined by a clip or other fastener 38 at the back of the neck. The mask body 12 generally falls onto the chest of the wearer so that the mask 10 is retained, thereby freeing the hands of the wearer. Depending on the band configuration, the mask body 12 may also flip over on the wearer's chest with the upper portion 16 extending downward, rather, than the position shown in FIG. 2.

As explained above, it can be appreciated that the mounting configurations of the band 24 can also be used with other types of masks, such as surgical masks 50, shown in FIG. 3. The mask 50 includes a flexible mask body 52, typically made of a fabric, for covering the nose and mouth of the wearer. The mask body includes a top edge 54, a bottom edge 56, and sides 58. A band 60 extends from the upper corners of the mask body 52 and extends down through loops 66 at the sides 58 along the bottom edge 56. The band 60 includes an end elastic portion 62 in the preferred embodiment. It can be appreciated that the band 60 extends from attachment point 64 over the ears of the wearer when worn and then through the loop 66 and around the back of the neck of the wearer similar to the arrangement shown in FIG. 1. It can also be appreciated that the mask 50 can be reversed with the end attachment points 64 located along the bottom edge and the loops 66 positioned near the top of the mask 60 when worn. The ear loop and drop down configurations of the band 60 are similar to those shown in FIG. 1.









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