**DIRECTORATE OF DISTANCE EDUCATION**
**NALSAR UNIVERSITY OF LAW, HYDERABAD**

## *Post-Graduate Diploma in Patents Law (Batch 2020 – 2021)*

## Take Home – Annual Examination (June, 2021)

# Paper II – Exploitation of Patents – Drafting, Specification & Patent Writing (Practical)

**TOTAL MARKS: 100**

**INSTRUCTIONS TO CANDIDATES**

a) ***Read the instructions for Take Home Examination carefully and adhere to the same.***
b) ***Please mention your name, ID No., subject name and total number of pages on the Answer Sheet.***
c) ***Clearly indicate the question numbers while answering them.***
d) ***The question paper to be interpreted as given and no additional clarification can be sought.***
e) ***Attempt only one choice – either A or B***
f) ***All the candidates are required to submit only word / Pdf files containing the typed answers.***
g) ***All papers will be uploaded on Turn-it-in for plagiarism check. Any paper with more than 15% similarity will be considered to be plagiarized attracting necessary action by the University.***
h) ***Since this is a take home exam, we expect your answers to be analytical rather than straight answers.***
i) ***Copying from any source including from other students is strictly prohibited. Plagiarism is considered as a serious academic mis-conduct and the University will take action as it deems fit.***

***You are required to draft a complete specification containing; a.) Title of the Patent b.) Background of the Invention c.) Summary of the Invention d.) Claims e.) Abstract of the invention. (Do not write a detailed description or draw figures.)***

***The Claims in the patent draft carries 50 marks and remaining specification carries 50 marks.***

## Option A

Mr. Madhusudan has developed a pistol-shaped pepper grinder. Conventional pepper grinders generally lack outer interesting forms to attract the curiosity of users.

In order for a pepper grinder to make a fresh, interesting impression on a user, this invention has been devised to supply a pepper grinder formed as a pistol which has a trigger operated mechanism to grind the pepper.

The pistol-shaped pepper grinder of the present invention comprises a pistol-shaped housing consisting of two symmetrical halves, which defines a chamber for storing grain pepper, a grinding plate along the chamber and a grinding block provided above a front portion of the grinding plate to form a space between them for pepper to pass through to be ground. The ground pepper falls out of an exit in an end of the housing. The grinding plate, which has a grinding teeth portion, can be pushed forward by the trigger when the trigger is pulled back, to grind pepper positioned in the space between said plate and said block.

The grinding block can be moved down by an adjusting rod rotated by a turning button combined with said rod, narrowing the space between said block and the grinding plate so as to adjust the size of the ground pepper.

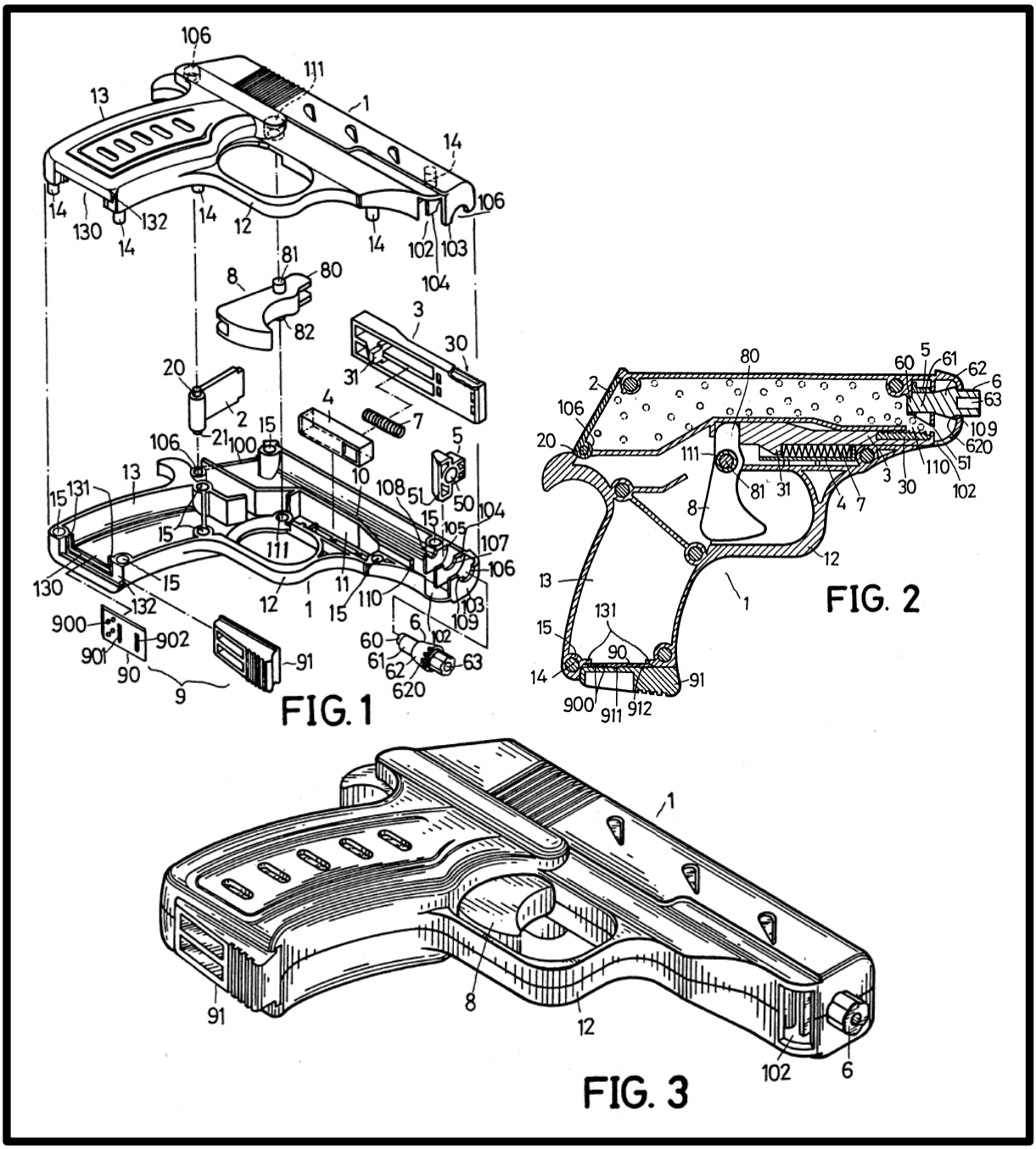

FIG. 1 is an exploded perspective view of the pistol-shaped pepper grinder of the present invention.
FIG. 2 is a side cross-sectional view of the pistol-shaped pepper grinder of the present invention.
FIG. 3 is a perspective view of the pistol-shaped pepper grinder of the present invention.

The pistol-shaped pepper grinder in the present invention, as shown in FIG. 1, comprises a pistol-shaped housing consisting of two symmetrical half housings 1 combined together, a cap 2, a grinding plate 3, a spring housing 4, a grinding block 5, an adjusting rod 6, a trigger 8, and a cap unit 9 as the main components.

The two symmetrical half housings 1 are separately provided with a barrel to form a chamber 10 for storing grain pepper in an upper portion, an entrance 100 in the rear end of the chamber 10, a shaft hole 106 in the left side (as seen in FIG. 1) of the entrance 100, an exit 102 in the right end, three separating plates 103, 104, 105 properly spaced apart in the right end (as seen in FIG. 1) three semi-circular grooves 116, 107, 108, in the edges of the three plates 103, 104, 105, a projection 109 on the semi-circular groove 116, a sliding cell 11 just below the chamber 10, a sliding cell opening 110, a shaft hole 111 at the left (as viewed in FIGS. 1 and 2) of the sliding cell 11, a trigger guard 12 below the sliding cell 11, a grip 13 defining a lower chamber 13 for storing a seasoning like salt, etc., an opening 130 in the bottom end of the grip, two vertical opposite guide rails 131 on both sides of the opening 130, and a horizontal sliding groove 132 in the upper and lower horizontal sides of the opening 130. The two half housings 1 are assembled together firmly by means of pins 14 and pin holes 15 provided at several corners and fitting with one another.

The cap 2 is provided to cover the entrance 100 of the chamber 10, having the same size of the entrance 100. The cap 2 also has two shaft pins 20, 21 projecting up and down from the left side to fit in two pin holes 106 in the left side of the entrance 100 so that the cap 2 can swing open with the shaft pins 20, 21 as pivots.

The grinding plate 3 is rectangular shaped to fit in the sliding cell 11, having grinding teeth 30 for grinding grain pepper on a right upper side (as viewed in FIG. 2) and a block 31 extending downwardly therefrom.

The spring housing 4 is fitted in the sliding cell 11 under the grinding plate 3 and a spring 7 is placed in the spring housing 4. The block 31 of the grinding plate 3 extends into the spring housing 4, contacting and pushing against the left end of the spring 7 which has its opposite end bearing against the wall of the spring housing 4.

The grinding block 5 is provided to fit in the space between the separating plates 104 and 105 and has a sloped grinding portion 51.

The adjusting rod 6 is provided to fit horizontally in the three semi-circular grooves 116, 107, 108 in the separating plates 103, 104, 105, and has a shaft portion 60 to fit in the semi-circular groove 108, a middle eccentric portion 61 to fit through the through hole 50 in the grinding block 5 and also to fit in the semi-circular groove 107, a right cone-shaped position portion 62 provided with a plurality of shallow holes 620 in an edge portion to correspondingly fit with the projection 109 on the semi-circular

groove 106 and a turning button 63 extending from the cone-shaped position portion 62.

The trigger 8 is provided under the left end (as viewed in FIG. 2) of the sliding cell 11 and within the trigger guard 12, having a top pushing portion 80 to contact and push the end of the grinding plate 3, two shaft rods 81, 82 extending from both sides under the pushing portion 80 to fit in two shaft holes 111, enabling the trigger 8 to be pulled back by a finger to rotate with the shaft rods 81, 82 as pivots.

A cap unit 9 is provided to cover an opening 130 in the lower end of the lower chamber 13, consisting of an inner cap 90 and an outer cap 91. The inner cap 90 fits in guide rails 131 of the opening 130, having through holes 900 for a seasoning, such as salt, stored in the lower chamber 13 and two ridges 901, 902 to engage with two slots 911, 912 in the outer cap 91 so that the outer and the inner cap can be combined together firmly.

In assembling this grinder, at first the pins 20, 21 of the cap 2 are fitted in the pin holes 106 in both half housings 1, and the shafts 81, 82 of the trigger 8 are fitted in the shaft holes 111 in both half housings 1. Next, the spring 7 is placed in the spring housing 4, and the block 31 in the grinding plate 3 is inserted in the left portion of the spring housing 4, the spring 7 pinched between the black 31 and the vertical right wall of the spring housing 4. Then the grinding plate 3, together with the spring housing 4, is placed in the sliding cell 11, letting the grinding teeth 30 extending out of the sliding cell opening 110 and positioning the spring housing 4 under the sliding cell 11. After that, the adjusting rod 6 is inserted through the through hole 50 in the grinding block 5, and the adjusting rod 6 together with the grinding block 5 is placed in the three separating plates 103, 104, 105, with the grinding block 5 fitting between the inner and the middle plates 104, 105, with the shaft portion 60 of the adjusting rod 6 fitting in the semi-circular groove 108 in the inner separating plate 105, with the cone-shaped position portion 62 fitting between the middle and the outer separating plate 104, 103, with the turning button 63 positioned outside of the outer separating plate 103, and with one of the shallow holes 620 of the position portion 62 fitting with the projection 109 on the semi-circular groove 116 in the outer separating plate 103. Then the upper and the lower half housings 1 are combined together, fitting pins 14 in the corresponding pin holes 15. And lastly, the cap unit 90 is placed on the opening 130 at the lower end of the lower chamber 13, by placing the inner cap 90 between the guide rails 131 and then sliding the outer cap 91 in the sliding grooves 132 from the right to the left (as viewed in FIG. 2) and covering the inner cap 90 and then fitting the ridges 901, 902 with the slots 911, 912 to combine both the inner and the outer caps 90, 91 together.

In using this grinder, the cap 2 has to be pulled to swing open before grain pepper is filled through the opening 100 into the chamber 10. Then the trigger 8 is pulled back, letting the pushing portion 80 push the grinding plate 3 rightward so that the grain pepper positioned in the space between the teeth 30 and the sloped grinding face 51 of the grinding block 5 can be ground. If the trigger 8 is released after having been pulled, the grinding plate 3 can be pushed back to its original position by the elasticity of the spring 7 in the spring housing 4 and then the trigger 8 is returned to its original position by the plate 3. Repeated pulling and releasing movement of the trigger can grind the grain pepper in the chamber 10 into powder pepper, which then falls out of an exit 102 in the lower end of the chamber 10.

If the size of ground powder pepper is to be adjusted, the turning button 63 is turned to rotate the adjusting rod 6, and the eccentric portion 61 can rotate to move the grinding block 5 down and thus the space between the sloped grinding face 51 and the teeth portion 30 of the grinding plate 3 can be made narrower to diminish the size of the ground powder pepper.

The adjusting rod 6 is kept stabilized by the fitting engagement of the projection 109 on the semi-circular groove 116 in the outer separating plate 103, said rod 6 cannot move during grinding action.

The lower chamber 13 can be used for storing a different kind of seasoning such as salt, etc., which can be shaken out thereof by pushing rightward the outer cap 91 to expose the holes 900 in the inner cap 90 and the contents can be shaken out of said holes 900.

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**Option B**

Prof. Surya recognized that a need exists for a holder for writing instruments which is easily and inexpensively manufactured and assembled, which also is suitable for use by children. In particular, that children (and others who have difficulties gripping small objects) require a holder which is easily used, keeps the user clean, and provides a good surface for grasping and manipulating the writing instrument. Prof. Surya developed holder for a writing instrument includes a body portion having at least one open end and a top portion adapted to fit on the open end. The top portion includes at least one flexible holding member positioned within a perimeter of the top portion and adapted to securely hold a writing instrument.

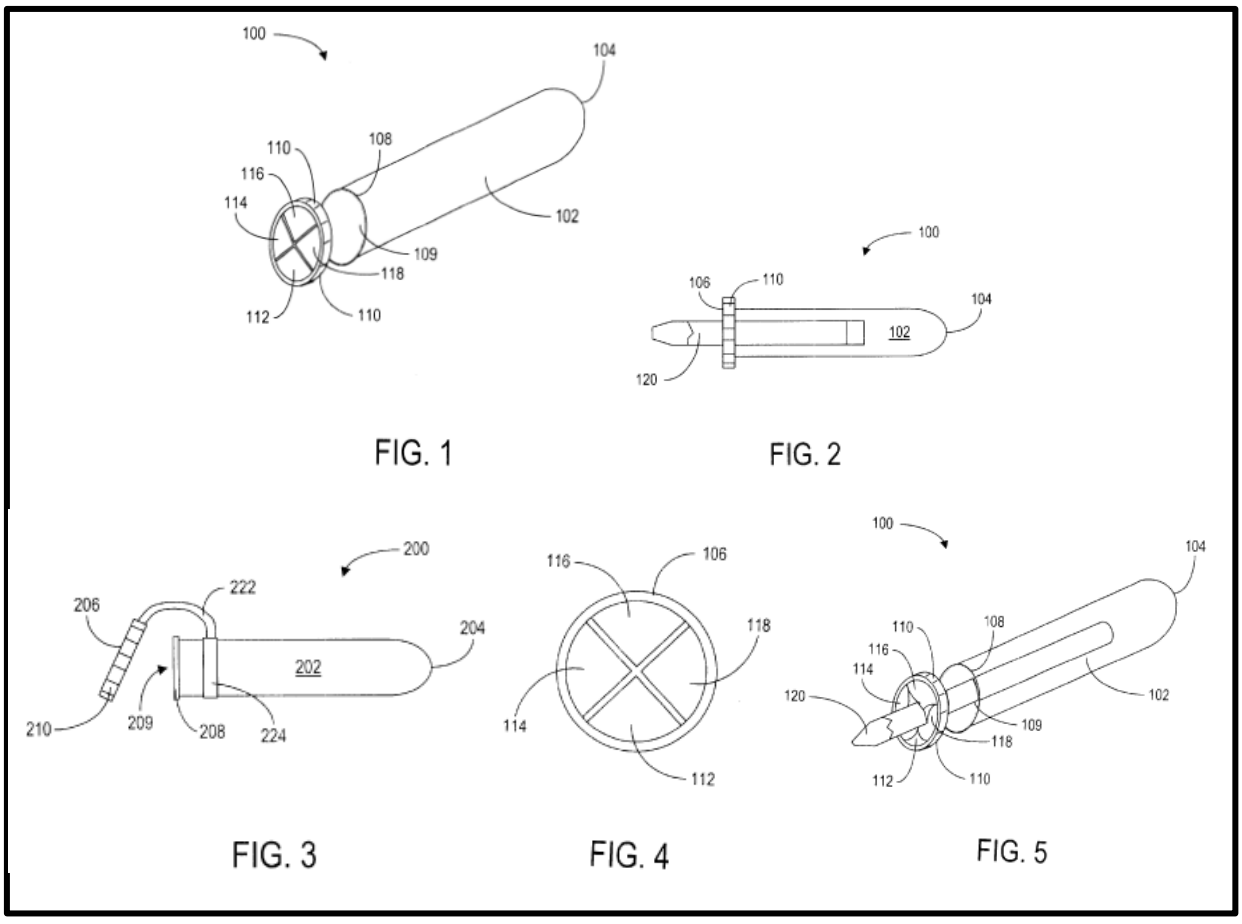

FIG. 1 is a front exploded view of a holding device according to an embodiment of the present invention;
FIG. 2 is a side view of the holding device of FIG. 1;
FIG. 3 is a side view of an alternative embodiment of the holding device of FIG. 1;
FIG. 4 is a front view of a top portion of the holding device of FIG. 1; and
FIG. 5 is a front exploded view of the holding device of FIG. 1 with a writing instrument installed.

The present invention can be described by first referring to FIG. 1 which is a front exploded view of a holding device 100 according to one embodiment of the present invention. The holding device 100 includes a body 102 having an end section 104, a flange 108, and an open end section 109. The body 102 may be formed of a thin, non-toxic plastic material. The body 102 may be opaque or clear. Preferably, the diameter of the body 102 is selected to provide a firm grip for children with small hands or impaired individuals. The exterior surface of the body 102 may be textured to provide an even firmer grip.

The holding device 100 also includes a top portion 106 which, in the embodiment depicted in FIG. 1, is formed separately from the body 102. The top portion 106 is sized to mate securely over the open end section 109 and the flange 108 of the body 102. The top portion 106 may include a plurality of serrations 110 disposed around an exterior perimeter of the top portion 106 to aid in removal of the top portion 106 from the body 102. In one embodiment, the top portion 106 is formed of a non-toxic, elastomeric material which is sized and formed to be safe for use by children. Those skilled in the art will recognize that the top portion 106 may couple to the body 102 in any of a number of ways. For example, the top portion 106 and the body 102 may be threaded in a manner which allows the top portion 106 to screw onto the body 102.

The top portion 106 further includes a number of holding portions 112, 114, 116, and 118. These holding portions 112-118 are arrayed around a perimeter of the top portion 106 in a manner which is designed to enable a writing instrument (not shown) to be inserted through the perimeter of the top portion 106 and to securely hold the writing instrument in position within the perimeter of the top portion 106. While Applicant has found that the configuration of holding portions depicted in FIG. 1 produces desirable results, those skilled in the art will recognize that a different number of holding portions may be provided, so long as the writing instrument is securely held within the perimeter of the top portion 106.

Referring to FIG. 2 where a side view of the holder 100 is shown with a writing instrument 120 held within the holder 100. As depicted, the holder 100 includes a body 102 mated with a top portion 106. The writing instrument 120 is securely held within a perimeter of the top portion 106 so that an unused end of the writing instrument is disposed within the interior of the body 102. This helps to ensure that messy writing instruments, such as crayons or chalk, do not accumulate on the user's hands. Further, the body 102 serves to protect the writing instrument 120 from breakage. The circumference of the body 102, which is larger than the circumference of the writing instrument 120, makes it easy for children with small hands or individuals with disabilities to grip and manipulate. As the writing instrument 120 wears down, the user simply needs to pull on the exposed end of the writing instrument 120 to expose more of the instrument.

Referring to FIG. 3, a side view of an alternative embodiment of a holder 200 is shown. In this embodiment, the holder 200 has a elongated body 202 having a closed end 204 and an open end 209. A top portion 206 is provided which is attached to the body 202 via a strap 222. The top portion 206 mates with the body 202 at the open end 209 by fitting over a flange 208. Through use of the strap 222, the top portion 206 can be kept with the body 202 and not lost. Further, attachment of the two portions helps to ensure that the smaller top portion 206 is not swallowed by a small child.
Reference to FIG. 4, which is a front view of the top portion 106 of FIG. 1. As shown, the top portion 106 includes several holding portions 112-118 which are disposed within a perimeter of the top portion 106. In the embodiment depicted, the holding portions 112-118 are angularly shaped to allow a writing instrument to be inserted within the perimeter of the top portion 106 and securely held therein by friction between the writing instrument and each of the holding portions 112-118. Those skilled in the art will recognize that any number of holding portions 112-118 may be used so long as a writing instrument may be securely held.

Referring to FIG. 5, a side exploded view of the holder 100 is shown. This view shows the interaction between the holding portions 112-118 of the top portion 102 and the writing instrument 120. Each of the holding portions 112-118 impart a holding force against the writing instrument 120, thereby holding the writing instrument securely in place.

The result is a holder for writing instruments which is cheaply manufactured and easily manipulated and configured. Further, the holder reduces messes and breakage associated with the use of fragile writing instruments such as crayons and chalk, and allows users with small hands or disabilities to easily grip and manipulate the holder and writing instrument.

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