PATENTS EXAMINATION BOARD

Subject: The Drafting of Patent Specifications - Paper 2

Date: July 2019

Time: 09h00 -13h00 (although candidates requiring extra time are entitled to an additional two hours)

Examiners: L Cilliers
V Williams
Moderator: J D Whittaker

Attached is an instruction from your client detailing an invention. You are required to draft a full patent specification for your client's invention. The full patent specification must include: (1) a background to the invention, (2) a summary of the invention, i.e. consistory clauses, (3) a brief description of the drawings, (4) a detailed description of the invention, (5) a set of patent claims, and (6) an abstract.

Marks will be allocated as follows:

- 50% of the marks will be allocated to the claims.
- 50% of the marks will be allocated to the rest of the specification.

In order to obtain a pass for this paper, candidates must obtain not less than 40% for each of these two sections.

The paper includes a first set of drawings which includes limited numbering, and a second set of drawings with no numbering. Please hand in the second set of drawings with your detailed numbering.

Your client writes:

“As an avid MasterChef fan, I recently decided to reinvent myself as an Avant-Garde Chef. Sadly, I stumbled over one of the most basic building blocks - the arduous and challenging task of grating cheese.

As you know, the typical manual cheese grater found in most household kitchens is the good old box grater, for example as shown in Figure 1. A box grater takes the form of a square or rectangular cylinder having four sides that are all provided with differently configured grating surfaces. A user holds the box grater steady with one hand, while sliding the cheese, or indeed any other comestible to be grated, up and down against the selected grating surface. At the same time, the user urges the cheese towards the grater. The grated cheese then falls though the hollow interior of the box grater, and collects on a surface on which the grater is located, for example a plate.

This may seem easy enough, but I have found that for someone that is not particularly dexterous, it becomes quite difficult to control the grating action as the size of the cheese that is grated becomes smaller and smaller. Not only does it become difficult to grip and exert sufficient force onto the cheese, but it also poses a safety risk in that a user’s fingers can come into dynamic contact with the grating surface, resulting in injured fingers and intense pain, as evidenced by the collection of plasters on my sore fingers.

Another commonly used grater is a so-called plane grater, which includes only one grating surface located on a single metal sheet or plate. You will appreciate that the perils of grating cheese are only exacerbated when using a plane grater instead of a box grater, as the plane grater is more unstable, and the grating action therefore even less controlled.

To assist future generations, I have now come up with a new grater, which I believe will alleviate the problems associated with the prior art. Some sketches of my new grater are shown below in Figures 2 to 5.

My new grater is actually quite simple. The grater 10 includes a main body 20, which in use doubles up as the handle of the grater, and which terminates in a cradle 30 that is suitably configured for receiving a rotatable barrel 40, as is discussed in more detail below. The cradle 30 may be an integrally formed extension of the handle, but may also be a separate component that is secured to an end of the handle.

A hopper 50 and a biasing arm 60 are secured to opposite ends of the handle 20, and are both pivotably displaceable relative to the handle. In this example, the hopper is more particularly secured to an end of the cradle 30, and is displaceable between a first position, in which it is tilted away from the cradle, and a second position, in which it is displaced towards the cradle. When the barrel 40 is located in the cradle, the hopper will rest on top of the barrel when the hopper is in the second position, and will be spaced apart from the barrel when the hopper is in the second position. The barrel is shown in Figures 4 and 5, but has been removed from the device in Figure 2. Figures 3 is an end view of Figure 2.

The biasing arm 60 is displaceable between a first position in which it is spaced apart from the cradle and the hopper, and a second position in which an end of the biasing arm is located inside the hopper. A slot is provided in a side of the hopper for receiving part of the biasing arm, thus allowing the end of the biasing arm to be displaceable into the hopper, and towards the barrel. The end of the biasing arm (typically in the form of a push plate secured to the biasing arm) is configured and dimensioned to match the cross-sectional profile of the hopper, as well as the curvature of the barrel. In effect, a chamber of selectively variable volume is defined between an operatively upper surface of the barrel, the sidewalls of the hopper, and an operatively lower surface of the push plate. In Figure 5, the push plate is shown abutting the barrel, which will be the condition when no cheese is located inside the grater. The push plate will, however, be spaced apart from the barrel (so as to define the chamber) when the cheese is located inside the grater.

I am toying with the idea of having a spring loaded push plate instead of the push plate mounted on the biasing arm, but this is still work in progress. Whatever the biasing configuration, the cheese will in use be sandwiched between the barrel and the biased push plate.

The barrel 40 is in the form of a cylindrical structure having grating formations provided in its continuous sidewall. A handle formation extends sideways from the barrel, and is used to rotate the barrel relative to the cradle. A thin strip of a low friction material, for example Teflon, may be provided at edge zones of the barrel in order to facilitate smooth rotation of the barrel relative to the cradle and the hopper. The barrel is in effect sandwiched between the cradle and the hopper, and the Teflon strips will reduce the friction between the barrel and the cradle.

Conveniently, the barrel can be removed from the cradle and inverted so as to change the relative location of the handle thereby to vary the grater between left handed and right handed configurations (shown in broken lines in Figure 4). The removal of the barrel (for purposes of cleaning and/or changing between left handed and right handed configurations) is simplified by the pivoting nature of the hopper. When the barrel is to be removed, the hopper is simply displaced from the second position to the first position, and the barrel can be lifted from the cradle.

In use, the cheese (or whatever substance is to be grated) is located inside the hopper, and the biasing arm is moved towards the second position so that the cheese is sandwiched between the push plate of the biasing arm and the barrel. The biasing arm is then squeezed in the direction of arrow A, and the barrel is rotated in order to grate the cheese. The grated cheese falls into the hollow interior of the barrel, and can be removed by tilting the grater sideways.

Please prepare a patent specification for my invention. “

Figure 1 – Prior Art

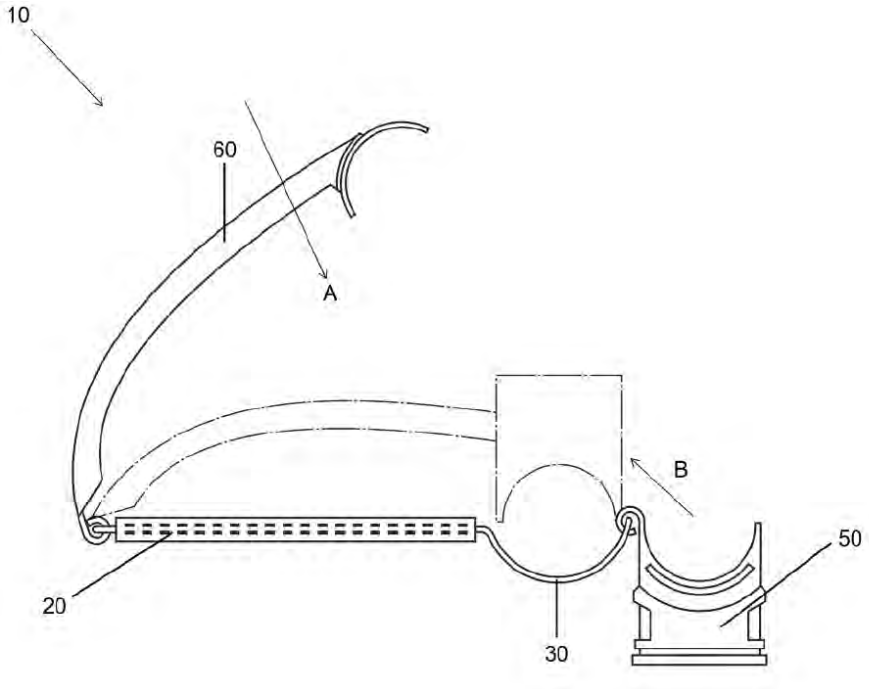

FIGURE 2

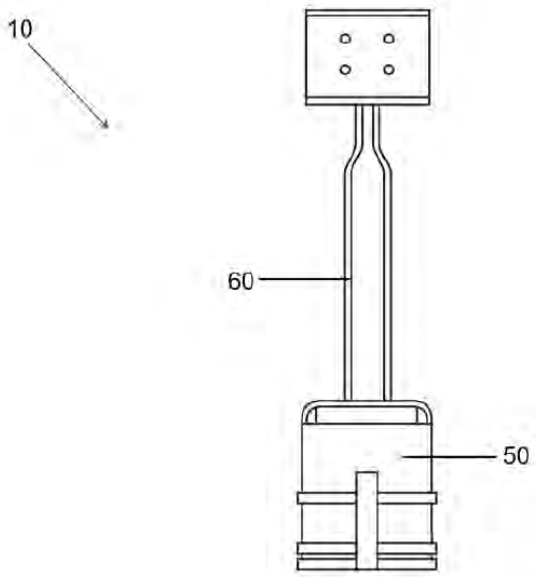

FIGURE 3

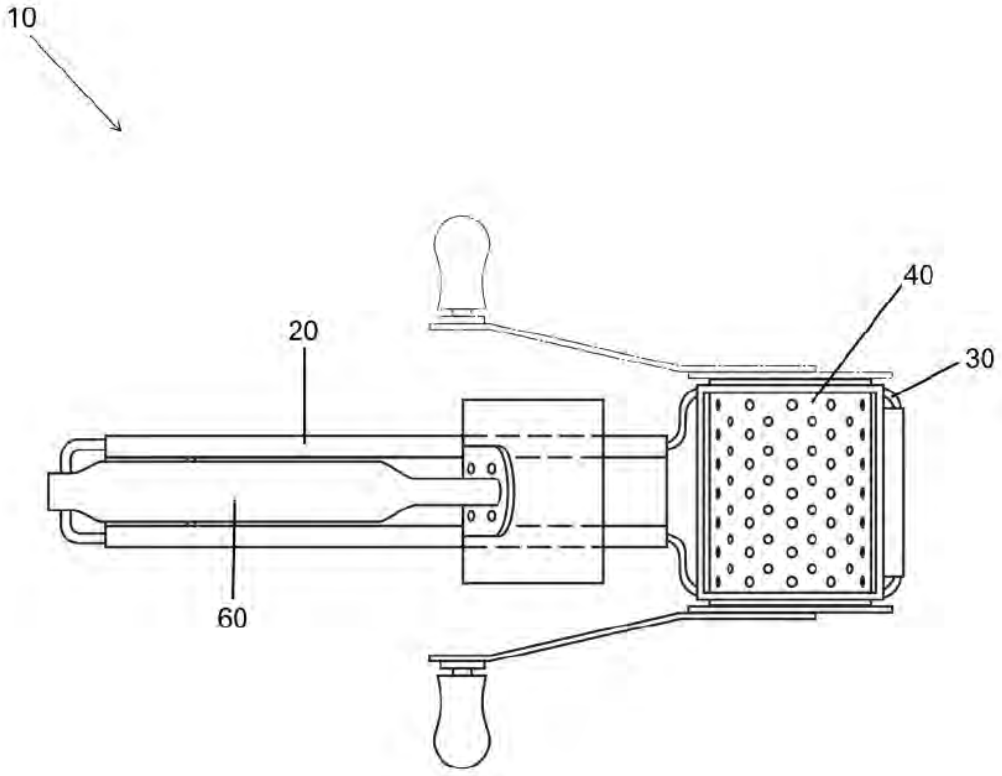

FIGURE 4

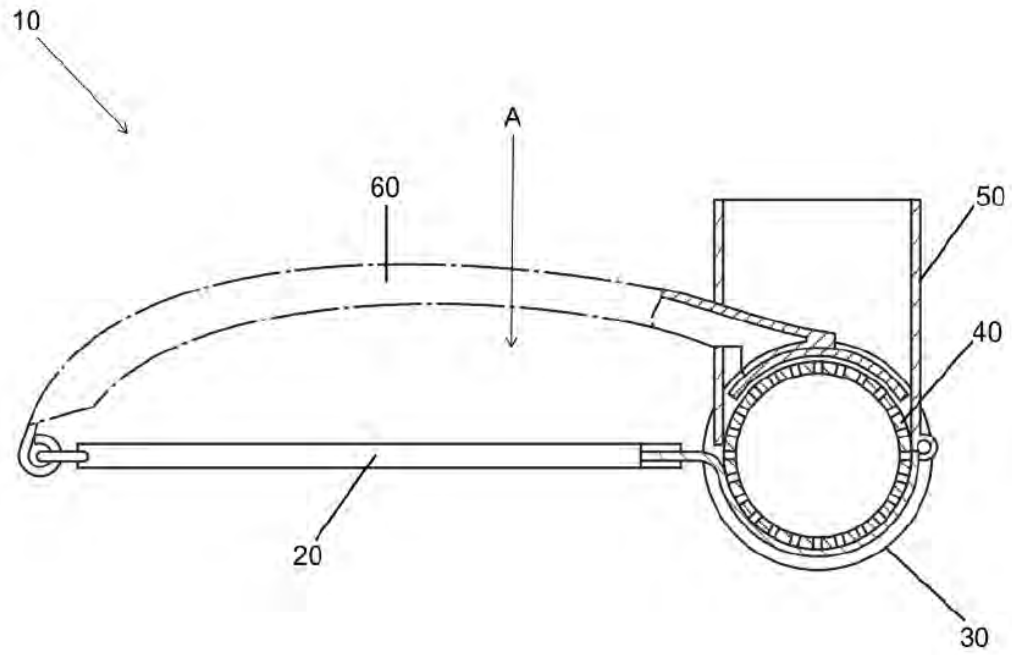

FIGURE 5

DRAWINGS TO BE HANDED IN:

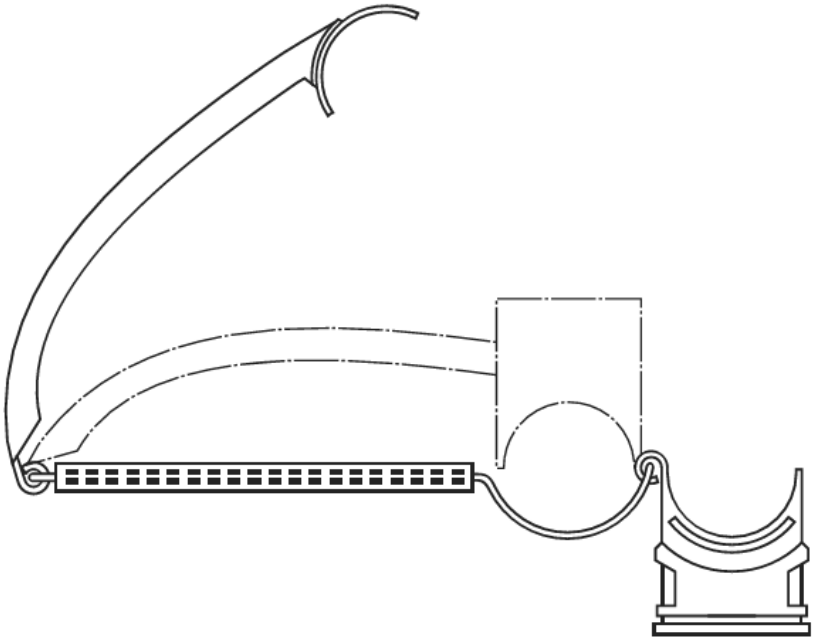

FIGURE 2

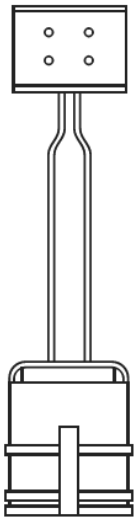

FIGURE 3

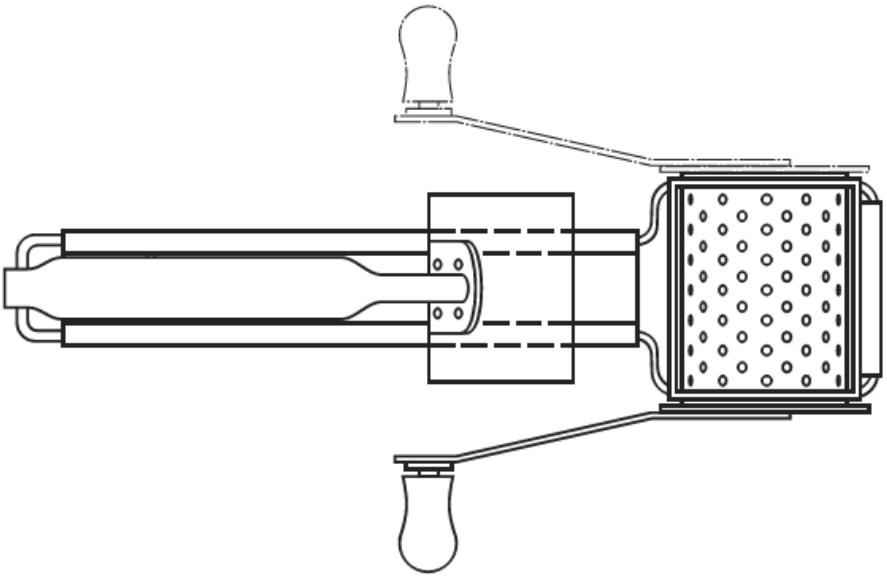

FIGURE 4

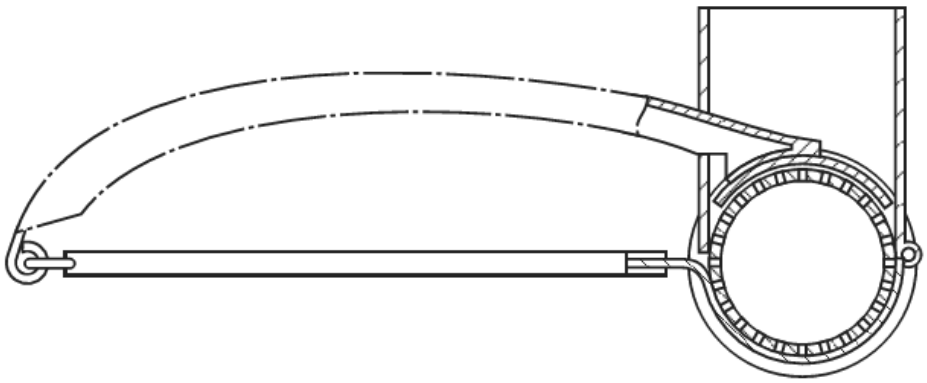

FIGURE 5