受験番号：36IPM011

問1

[0006]

With the ceiling structure of the conventional fluidized roaster described above, the purpose-made bricks 8, the cylindrical side panel 10 and the shelf 9 mounted at the topmost portion of the cylindrical side panel 10 deteriorate over time and become unable to fully support the total load of the refractory bricks 7. Thus, the entire fluidized roaster needs to be manufactured anew.

[0007]

Furthermore, the labyrinth function that prevents the combustion gas inside the fluidized roaster from being released into the atmosphere, achieved by the purpose-made bricks 8 of the conventional fluidized roaster, also largely deteriorates. This is because, as the purpose-made bricks 8 deteriorate over time, the joint gap generated between bricks widens.

[0008]

The present invention has been made to solve the problem of such a conventional ceiling structure, and it is an object thereof to provide a fluidized roaster in which the entire fluidized roaster does not need to be manufactured anew even after the purpose-made bricks 8, the cylindrical side panel 10 and the shelf 9 mounted at the topmost portion of the cylindrical side panel 10 degrade over time, and that further continuously provides the labyrinth function, which is a function that prevents the combustion gas inside the fluidized roaster from being released into the atmosphere.

訳注

[0006]「円筒形側板と円筒形側板１０の最上部」は「円筒形側板１０と円筒形側板１０の最上部」の誤りと思われます。

問 2

[0038]

1. Blade Forming Step

The first base material 11 used in the present embodiment is a plate material made of a steel such as carbon tool steel. As the first base material 11, a flat bar having an appropriate area corresponding to the size of the blade 1 to be manufactured is used. Although only one flat bar is needed to yield one blade 1, as illustrated in FIG. 3, two rectangular (elongate) flat bars, i.e., a first flat bar 11A and a second flat bar 11B are used in the present embodiment. It should be noted that, since an identical procedure is used to form a blade edge portion 17 on the first flat bar 11A and the second flat bar 11B, the first flat bar 11A and the second flat bar 11B are collectively referred to as “flat bar 11A (11B)” herein.

[0039]

As illustrated in FIG. 2(a), before the blade edge portion 17 is formed, the flat bar 11A (11B) is a rectangular plate material having a constant thickness. The blade forming step is a step of machining this plate material to form the blade edge portion 17. That is, as illustrated in FIG. 2(b), in the blade forming step, the blade edge portion 17 is formed by subjecting the flat bar 11A (11B) to sharpening starting from an intermediate portion in the width direction and ending at one end.

[0040]

After performing the blade forming step, the flat bar 11A (11B) has a base portion 16 having a constant thickness and the blade edge portion 17 having a smaller thickness further from the base portion 16, i.e., further outward in the width direction of the flat bar 11A (11B). A blade tip 17a is formed at the tip of the blade edge portion 17. The blade edge portion 17 is a double-edge type blade edge portion formed by machining both surfaces of the side edges of the flat bar 11A (11B). In other words, the blade edge portion 17 is formed so that a center line bisecting the flat bar 11A (11B) in a thickness direction and a tip end (blade tip 17a) substantially coincide.

[0041]

As methods of forming a blade in the flat bar 11A (11B), a method of grinding one side edge of the flat bar 11A (11B) with, for example, a grinding wheel, and a method of flattening one side edge by applying pressure by forging or the like have been proposed.

[0042]

2. Heat Treatment Step and Grinding Step

After the blade forming step, the flat bar 11A (11B) is subjected to heat treatment. As the heat treatment, the flat bar 11A (11B) is quenched by being rapidly cooled from a high-temperature state, and then tempered by being heated up again.

[0043]

After the heat treatment, the blade edge portion 17 is ground to a sharp tip again. This step is performed because the heat treatment dulls the tip end (blade tip) of the blade edge portion 17 and the blade tip needs to be restored to a sharp state after the heat treatment. At this time, a grinding stone having a grit finer than a grinding wheel is preferably used.

訳注

#1 サブタイトルに関しましては、米国出願案件にはカッコを使用しないことが好ましいため、別の表記を用いて訳出いたしました。

#2 [0038]の「本項では」は、「本明細書内に」と解釈して訳出いたしました。

#3 [0040]の「基部１６から離れるほど［フラットバー１１Ａ（１１Ｂ）の幅方向外側ほど］厚みが薄くなる刃先部１７とを有する」は、［］の記号を訳出しない方が自然な英語となると思い、接続詞を用い訳出いたしました。

問3

1. A watch having a function of displaying a moon position and a moon phase, the watch comprising:

a constellation display (4) formed of a disc displaying principal stars and constellations and driven by a watch mechanism with a celestial north pole or a celestial south pole as an axis of rotation to rotate in synchronization with diurnal motion of the stars, the constellation display (4) further displaying an ecliptic (4a) in a substantially eccentric ring shape, a date in a year indicating a position of the sun on the ecliptic (4a), and a region (4b) indicating a range of transit of the moon in a vicinity of the ecliptic (4a); and

a moon display (3) that rotates at a predetermined ratio of rotation relative to the constellation face (4) and displays, on a circumference, an indicator (3a) indicating a position of the moon in a range in which the moon can exist, and a moon phase (3b) corresponding to the date.

2. The watch having a function of displaying a moon position and a moon phase according to claim 1, wherein

display of the range of transit of the moon in the constellation display (4) is performed in the region (4b) having a band-like shape with a predetermined width inside and outside of the ecliptic (4a), and

the indicator (3b) indicating the position of the moon on the moon display (3) has a predetermined angle width relative to a center of the moon display (3).