# US Patent & Trademark Office Patent Public Search | Text View

United States Patent Application Publication

Kind Code

August 21, 2025

Inventor(s)

20250261793

August 21, 2025

WANG; Min

## BARBECUE FIXTURE AND PIZZA OVEN

#### **Abstract**

Disclosed is a barbecue fixture and a pizza oven. The barbecue fixture is applied to a pizza oven. The pizza oven is provided with an oven cavity. The barbecue fixture includes a fixing frame and a support base, the fixing frame is installed on the support base, the support base is configured to support the fixing frame, the support base is located on the baking table, and the fixing frame is at least partially located in the oven cavity.

Inventors: WANG; Min (Huanggang, CN)

**Applicant: Haohong Electric Technology (Hubei) Co., Ltd.** (Huanggang, CN)

Family ID: 1000007853215

Assignee: Haohong Electric Technology (Hubei) Co., Ltd. (Huanggang, CN)

Appl. No.: 18/655698

Filed: May 06, 2024

# **Foreign Application Priority Data**

CN 202420316132.4 Feb. 20, 2024

### **Publication Classification**

Int. Cl.: A47J37/06 (20060101); A21B1/00 (20060101); A47J37/04 (20060101); A47J37/07

(20060101)

U.S. Cl.:

CPC **A47J37/0664** (20130101); **A47J37/041** (20130101); **A47J37/047** (20130101);

**A47J37/0658** (20130101); **A47J37/0704** (20130101); **A47J37/0786** (20130101);

A21B1/00 (20130101)

# **Background/Summary**

#### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority to Chinese Patent Application No. 202420316132.4, filed on Feb. 20, 2024, the entire contents of which are incorporated herein by reference.

#### TECHNICAL FIELD

[0002] The present application relates to the technical field of pizza ovens, and in particular to a barbecue fixture and a pizza oven.

#### BACKGROUND

[0003] In daily life, barbecuing has gradually become a popular way of leisure and entertainment for group gatherings.

[0004] However, existing barbecue fixtures are mostly applied on barbecue grills, involving the installation of rotatable skewers on the barbecue grills, and thus the use of barbecue fixtures is limited to the barbecue grill, which is highly restrictive.

#### **SUMMARY**

[0005] The main objective of the present application is to provide a barbecue fixture, aiming to solve the problem that most of the existing barbecue fixtures are mostly applied on the barbecue grills, and the usage scenarios of the barbecue fixture are very limited.

[0006] In order to achieve the above objective, the barbecue fixture provided in the present application is applied to a pizza oven. The pizza oven is provided with an oven cavity, and the barbecue fixture is provided in the pizza oven. The barbecue fixture includes: a fixing frame, and a support base.

[0007] The fixing frame is at least partially located in the oven cavity and installed on the support base.

[0008] The support base is configured to support the fixing frame.

[0009] In an embodiment, the support base includes a fixing plate and a stand, the stand is installed on the fixing plate, and the fixing frame is at least partially located in the oven cavity.

[0010] In an embodiment, the stand is provided with a perforation, and the fixing frame is configured to penetrate the perforation and is limitedly installed on the stand.

[0011] In an embodiment, the stand includes a support frame and an auxiliary frame, the support frame is installed on the fixing plate, the support frame is provided with a perforation, the auxiliary frame is connected to the support frame and protrudingly provided relative to the support frame, the fixing frame is limitedly installed on the support frame and abutted against the auxiliary frame, and the auxiliary frame is configured to support the fixing frame.

[0012] In an embodiment, the auxiliary frame is provided with a detent notch, and the fixing frame is abutted against the auxiliary frame at the detent notch.

[0013] In an embodiment, the fixing plate is protrudingly provided with a connection plate, and the connection plate is configured to extend towards a direction of the stand to be connected to the stand.

[0014] In an embodiment, a positioning plate is provided on a side of the support frame away from the connection plate, and the positioning plate is bent in a direction away from the connection plate. [0015] In an embodiment, the barbecue fixture further includes a drive mechanism, the drive mechanism is connected to the fixing frame and configured to drive the fixing frame to rotate. [0016] In an embodiment, the drive mechanism includes a drive apparatus and a mount, the mount is provided on a side of the stand away from the fixing frame, and the drive apparatus is installed on the mount; the fixing frame is limitedly installed on the mount and connected to the drive apparatus.

[0017] The present application further provides a pizza oven, which includes a baking table, a

housing, and a barbecue fixture. The housing is configured to cover the baking table and is enclosed with the baking table to form an oven cavity. The fixing frame of the barbecue fixture is at least partially located in the oven cavity.

[0018] The technical solution of the present application is to provide a support base on the barbecue fixture, the fixing frame is installed on the support base, and the support base is configured to support the fixing frame; the barbecue fixture of the present application is provided with the fixing frame, which facilitates placing or fixing ingredients on the fixing frame, and the barbecue fixture can be installed on the pizza oven through the support base, so that the fixing frame of the barbecue fixture is at least partially located in the oven cavity, thereby allowing the barbecue fixture to be applied to the pizza oven and expanding the usage scenarios of the barbecue fixture.

# **Description**

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0019] In order to more clearly illustrate the technical solutions in the embodiments of the present application or in the related art, drawings used in the embodiments or in the related art will be briefly described below. Obviously, the drawings in the following description are only some embodiments of the present application. It will be apparent to those skilled in the art that other figures can be obtained according to the structures shown in the drawings without creative work. [0020] FIG. 1 is a schematic structural diagram of a barbecue fixture according to an embodiment of the present application.

[0021] FIG. **2** is a schematic exploded diagram of the barbecue fixture according to an embodiment of the present application.

[0022] FIG. **3** is a schematic structural diagram of a pizza oven according to an embodiment of the present application.

[0023] FIG. **4** is a schematic exploded diagram of the pizza oven according to an embodiment of the present application.

[0024] FIG. **5** is a schematic structural diagram of the barbecue fixture according to another embodiment of the present application.

[0025] The present application will be further described with reference to the embodiments and the accompanying drawings.

#### DETAILED DESCRIPTION OF THE EMBODIMENTS

[0026] The technical solutions in the embodiments of the present application will be clearly and completely described below with reference to the drawings in the embodiment of the present application. Obviously, the described embodiments are only a part of the embodiments of the present application, not all of the embodiments. Based on the embodiments in the present application, all other embodiments perceived by those skilled in the art without creative effort should be fallen within the protection scope of the present application.

[0027] It should be noted that all of the directional instructions in the embodiments of the present application (such as, up, down, left, right, front, rear . . . ) are only used to explain the relative position relationship and movement of each component under a specific attitude (as shown in the drawings), if the specific attitude changes, the directional instructions will change correspondingly. [0028] In the present application, unless otherwise clearly stated and limited, the terms "connection", "fixing", etc. should be understood in a broad sense. For example, "fixing" can be a fixed connection, a detachable connection, or an integral body; it can be a mechanical connection or an electrical connection; it can be a direct connection or an indirect connection through an intermediate medium; it can be an internal connection between two elements or an interactive relationship between two elements, unless otherwise clearly limited. For those of ordinary skill in

the art, the specific meanings of the above terms in the present application can be understood according to specific circumstances.

[0029] Besides, the descriptions in the present application that refer to "first," "second," etc. are only for descriptive purposes and are not to be interpreted as indicating or implying relative importance or to implicitly indicate the number of technical features indicated. Thus, a feature defined as "first" or "second" may explicitly or implicitly include at least one of the features. In addition, the meaning of "and/or" appearing in the entire text is to include three parallel solutions. For example, "A and/or B" includes only A, or only B, or both A and B. In addition, technical solutions between the embodiments can be combined with each other, but must be based on the realization of the technical solutions by those skilled in the art, and when the technical solutions are contradictory to each other or cannot be realized, the technical solutions should be considered that the combination does not exist, and the technical solutions are not fallen within the protection scope claimed in the present application.

[0030] The present application provides a barbecue fixture **30**. As shown in FIGS. **1** to **5**, FIG. **1** is a schematic structural diagram of the barbecue fixture **30** according to an embodiment of the present application; FIG. **2** is a schematic exploded diagram of the barbecue fixture **30** according to an embodiment of the present application; FIG. **3** is a schematic structural diagram of a pizza oven **100** according to an embodiment of the present application; FIG. **4** is a schematic exploded diagram of the pizza oven **100** according to an embodiment of the present application; FIG. **5** is a schematic structural diagram of the barbecue fixture **100** according to another embodiment of the present application.

[0031] In the embodiment of the present application, as shown in FIGS. **1** to **5**, the barbecue fixture **30** is applied to the pizza oven **100**. The pizza oven **100** is provided with an oven cavity **41**, and the barbecue fixture **30** is provided in the pizza oven **100**. The barbecue fixture **30** includes: a fixing frame **32**, and a support base **33**.

[0032] The fixing frame **32** is at least partially located in the oven cavity **41**.

[0033] The fixing frame **32** is installed on the support base **33**, and the support base **33** is configured to support the fixing frame **32**.

[0034] In an embodiment, as shown in FIGS. 1 and 2, the fixing frame 32 may be a grill fork configured to fix food. The fixing frame 32 may also be a fixing clip structure for holding food. The fixing frame 32 is configured to restrict the food in the oven cavity 42 so that the food on the fixing frame 32 can be cooked by the high temperature of the oven cavity 41.

[0035] In another embodiment, as shown in FIG. **5**, the fixing frame **32** may be a baking basket to place food into the baking basket.

[0036] The fixing frame **32** is at least partially located in the oven cavity **41** so that food can be placed in the oven cavity **41**, and the food can be cooked using the high temperature in the oven cavity **41**.

[0037] The technical solution of the present application is to provide a support base **33** on the barbecue fixture **30**, the fixing frame **32** is installed on the support base **33**, and the support base **33** is configured to support the fixing frame **32**; the barbecue fixture **30** of the present application is provided with the fixing frame **32**, which facilitates placing or fixing ingredients on the fixing frame **32**, and the barbecue fixture **30** can be installed to the pizza oven **100** through the support base **33**, so that the fixing frame **32** of the barbecue fixture **30** is at least partially located in the oven cavity **41**, thereby allowing the barbecue fixture **30** to be applied to the pizza oven **100** and expanding the usage scenarios of the barbecue fixture **100** 

[0038] In an embodiment, the fixing frame **32** includes a shaft **321** and two grilling forks **322** installed on the shaft **321**. The two grilling forks **322** are provided oppositely. The shaft **321** and the drive mechanism **31** are limitedly installed on the support base **33**. The pizza oven **100** can adopt an existing kiln-type pizza oven **100** to heat the barbecue fixture **30** in the oven cavity **41** of the pizza oven **100**. The two grilling forks **322** can be inserted into various foods. A heating mechanism

**10** is installed at the bottom or side of the pizza oven **100**. The heating mechanism **10** heats up the oven cavity **41** of the pizza oven **100** and can bake various foods on the two grill forks **322**.

[0039] It should be noted that the heating manner of the pizza oven **100** and the structure of the heating mechanism **10** of the pizza oven **100** can be adopted in the existing ones, and will not be described again here.

[0040] In order to limit the fixing frame **32** in the oven cavity **41**, the support base **33** includes a fixing plate **330** and a stand **332**. The stand **332** is installed on the fixing plate **330**. The fixing frame **32** is at least partially located in the oven cavity **41**.

[0041] The support base **33** can be an integrally formed structure or a split structure. The support base **33** adopts an integrated structure and is easy to install.

[0042] In an embodiment, the support base **33** adopts a split structure so that the support base **33** can be disassembled, packaged and transported. Specifically, the support base **33** includes a fixing plate **330** and a stand **332**. The stand **332** is detachably installed on the fixing plate **330**. The stand **332** can be installed on the fixing plate **330** through screws.

[0043] In order to install the fixing frame **32** to the stand **332**, the stand **332** is provided with a perforation **334**, and the fixing frame **32** passes through the perforation **334** and is limitedly installed on the stand **332**.

[0044] In an embodiment, the fixing plate **330** of the support base **33** can be placed inside the oven cavity **41** or outside the oven cavity **41**. The fixing frame **32** of the barbecue fixture **30** is limited in the oven cavity **41** of the pizza oven **100**. The support base **33** can install the pizza oven **100** without fasteners, and the installation operation is simple and convenient.

[0045] In order to support the fixing frame **32**, the stand **332** includes a support frame **333** and an auxiliary frame **336**. The support frame **336** is installed on the fixing plate **330** and is provided with the perforation **334**. The auxiliary frame **336** is connected to the support frame **333** and protrudingly provided relative to the support frame **333**. The fixing frame **32** is limitedly installed on the support frame **333** and is abutted against the auxiliary frame **336**. The auxiliary frame **336** is configured to support the fixing frame **32**.

[0046] In an embodiment, the support frame **333** is connected to the fixing plate **330** and is configured to support the fixing frame **32**.

[0047] Since the shaft **321** of the barbecue fixture **30** is relatively long, and the two grill forks **322** and the food on the grill forks **322** are relatively heavy, the stand **332** is provided with an auxiliary frame **336**, and the auxiliary frame **336** is protrudingly provided in a direction towards the two grill forks **322** to assist in supporting the shaft **321** of the barbecue fixture **30** and thereby supporting the two grill forks **322**.

[0048] The auxiliary frame **336** is provided with a detent notch **337**, and the fixing frame **32** is abutted against the auxiliary frame **336** at the detent notch **337**. In an embodiment, part of the structure of the shaft **321** is limited to the detent notch **337**, and one end of the shaft **321** passes through the perforation **334** of the supporting frame **333** and is connected to the drive apparatus **310**.

[0049] In order to facilitate the connection between the fixing plate **330** and the stand **332**, the fixing plate **330** is protrudingly provided with a connection plate **331**. The connection plate **331** extends toward the direction of the stand **332** to be connected to the stand **332**.

[0050] In an embodiment, the connection plate **331** is connected to the supporting frame **333** through screws.

[0051] A positioning plate **335** is provided on a side of the support frame **333** away from the connection plate **331**. The positioning plate **335** is bent in a direction away from the connection plate **331**.

[0052] One side of the support frame **333** is connected to the connection plate **331** through screws, and the other side of the support frame **333** is abutted against the fixing plate **330** through the positioning plate **335**. Since the drive mechanism **31** is installed on the side of the support frame

**333** away from the two grilling forks **322**, the support frame **333** bears a relatively heavy load. The positioning plate **335** is abutted against the fixing plate **330**, and the positioning plate **335** can be configured to limit the bending of the support frame **333** to indirectly support the support frame **333**.

[0053] The barbecue fixture **30** further includes a drive mechanism **31**, and the drive mechanism **31** is connected to the fixing frame **32**.

[0054] The drive mechanism **31** is configured to drive the fixing frame **32** to rotate. The driving mode of the drive mechanism **31** may be an electric driving mode or a manual driving mode. [0055] In order to install the drive mechanism **31** to the support frame **333**, the drive mechanism **31** includes a drive apparatus **310** and a mount **311**. The mount **311** is provided on a side of the stand **332** away from the fixing frame **32**. The drive apparatus **310** is installed on the mount **311**, and the fixing frame **32** is limitedly installed on the mount **311** and connected to the drive apparatus **310**. [0056] In an embodiment, the drive apparatus **310** is a motor. In another embodiment, the drive apparatus **310** may be a wheel, so that the fixing frame **32** is driven to rotate by manually turning the wheel.

[0057] The mount **311** is configured to connect the supporting frame **333** and the drive apparatus **310**, so that the drive apparatus **310** is installed on the supporting frame **333** through the mount **311**.

[0058] The mount **311** is provided with a perforation for the fixing frame **32** to pass through, so that the shaft **321** of the fixing frame **32** passes through the perforation and is connected to the drive apparatus **310**.

[0059] In an embodiment, the drive apparatus **310** is a motor. The motor is installed on the mount **311** and connected with the shaft **321** of the fixing frame **32** to drive the fixing frame **32** to rotate. The motor drives the fixing frame **32** to rotate, thereby driving the two grilling forks **322** on the shaft **321** to rotate.

[0060] The barbecue fixture **30** further includes an oil pan **20**, and the oil pan **20** is located below the fixing frame **32**. The oil pan **20** can receive oil dripping from the barbecue fixture **30**. [0061] The oil pan **20** is located in the pizza oven **100**. After baking food in the pizza oven **100**, the oil pan **20** can be directly taken out and cleaned to effectively alleviate the phenomenon that the oil dripping from the barbecue fixture **30** is dropped on the baking table **101**, and the baking table **101** is contaminated by oil, which requires repeated scrubbing of the heating mechanism **10** with a rag and detergent.

[0062] The present application further provides a pizza oven **100**, as shown in FIGS. **3** and **4**, including the baking table **101** and the barbecue fixture **30**. The specific structure of the barbecue fixture **30** refers to the above embodiment. Since the pizza oven **100** adopts all the technical solutions of all the above embodiments, and therefore has at least all the beneficial effects brought by the technical solutions of the above embodiments, which will not be described again here. [0063] The heating mechanism **10** is installed on the bottom or side of the baking table **101**. The pizza oven **100** further includes a housing **40**. The housing **40** is configured to cover the baking table **101** and is enclosed with the baking table **101** to form an oven cavity **41**, and the barbecue fixture **30** is at least partially located in the oven cavity **41**.

[0064] It should be noted that the heating mechanism **10** may be a combustion tube provided at the bottom or side of the baking table **101**. The heating mechanism **10** may adopt the structure of a heating mechanism used for heating in an existing pizza oven.

[0065] Furthermore, the pizza oven **100** is further provided with an exhaust pipe **50**. The exhaust pipe **50** is provided on the housing **40** and is communicated with the oven cavity **41**.

[0066] When the heating mechanism **10** of the pizza oven **100** heats up, the temperature in the oven cavity **41** of the pizza oven **100** rises, so that the food on the barbecue fixture **30** can be cooked at high temperature.

[0067] In an embodiment, the housing **40** is provided with an opening **400**, the opening **400** is

connected to the oven cavity **41**, and the barbecue fixture **30** is externally exposed in the opening **400**.

[0068] In an embodiment, the fixing frame **32** of the barbecue fixture **30** is put into the oven cavity **41** from the opening **400**, the fixing plate **330** of the barbecue fixture **30** is placed on the baking table **101**, and the barbecue fixture **30** is placed in the oven cavity **41**.

[0069] The shape of the opening **400** may be semicircular. The diameter of the opening **400** is larger than the height and width of the barbecue fixture **30** so that the barbecue fixture **30** can be placed into the oven cavity **41** from the opening **400**.

[0070] The above are only some embodiments of the present application, and do not limit the scope of the present application thereto. Under the inventive concept of the present application, equivalent structural transformations made according to the description and drawings of the present application, or direct/indirect application in other related technical fields are included in the scope of the present application.

# **Claims**

- **1**. A barbecue fixture, applied to a pizza oven provided with an oven cavity, wherein the barbecue fixture is provided in the pizza oven, and the barbecue fixture comprises: a fixing frame; and a support base; wherein the fixing frame is at least partially located in the oven cavity and installed on the support base, and the support base is configured to support the fixing frame.
- **2.** The barbecue fixture according to claim 1, wherein the support base comprises a fixing plate and a stand, the stand is installed on the fixing plate, and the fixing frame is at least partially located in the oven cavity.
- **3.** The barbecue fixture according to claim 2, wherein the stand is provided with a perforation, and the fixing frame is configured to penetrate the perforation and is limitedly installed on the stand.
- **4.** The barbecue fixture according to claim 3, wherein the stand comprises a support frame and an auxiliary frame; the support frame is installed on the fixing plate; the support frame is provided with a perforation; the auxiliary frame is connected to the support frame and protrudingly provided relative to the support frame; the fixing frame is limitedly installed on the support frame and abutted against the auxiliary frame; and the auxiliary frame is configured to support the fixing frame.
- **5.** The barbecue fixture according to claim 4, wherein the auxiliary frame is provided with a detent notch, and the fixing frame is abutted against the auxiliary frame at the detent notch.
- **6**. The barbecue fixture according to claim 4, wherein the fixing plate is protrudingly provided with a connection plate, and the connection plate is configured to extend towards a direction of the stand to be connected to the stand.
- **7**. The barbecue fixture according to claim 6, wherein a positioning plate is provided on a side of the support frame away from the connection plate, and the positioning plate is bent in a direction away from the connection plate.
- **8**. The barbecue fixture according to claim 2, wherein the barbecue fixture further comprises a drive mechanism, and the drive mechanism is connected to the fixing frame and configured to drive the fixing frame to rotate.
- **9.** The barbecue fixture according to claim 8, wherein the drive mechanism comprises a drive apparatus and a mount; the mount is provided on a side of the stand away from the fixing frame, and the drive apparatus is installed on the mount; and the fixing frame is limitedly installed on the mount and connected to the drive apparatus.
- **10**. The barbecue fixture according to claim 1, wherein the barbecue fixture further comprises an oil pan, and the oil pan is installed below the fixing frame.
- **11**. A pizza oven, comprising: a baking table; a housing; and the barbecue fixture according to claim 1; wherein the housing is configured to cover the baking table and is enclosed with the