PACKING HAVING SEAL TONGUE

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Appl. No.: 11/204,253

Filed: Aug. 15, 2005

Publication Classification

Int. Cl.
F01C 9/00 (2006.01)

U.S. Cl. .................................................. 92/120

ABSTRACT

A cylinder packing is clamped between two parts of a casing of a cylinder and a piston is received between the two parts. The piston has a shaft which extends out from the casing of the cylinder. The packing includes a seal portion extending from an inner periphery thereof and being in contact with a top and a bottom of the piston. A seal tongue extends from the inner periphery of the packing and is in contact with inside of the two parts so as to seal the conjunction portion of the two parts of the casing.
PACKING HAVING SEAL TONGUE

FIELD OF THE INVENTION

The present invention relates to a packing clamped between two half parts of a cylinder casing and the packing includes seal tongues contacting an inside of the half parts to prevent from leakage.

BACKGROUND OF THE INVENTION

A conventional cylinder is shown in FIGS. 6 to 8 and generally includes a fan-shaped piston 10 which is received in a casing composed of two half parts 12 and a packing 11 is clamped between the two parts 12 so as to achieve an air sealed combination. One of the two parts 12 has an inlet 121 for entrance of air and the other part 12 has an outlet (not shown) to allow air to escape therefrom when the fan-shaped piston 10 is pivoted about a shaft 01 between the two parts 12. The packing 11 is an enclosed member and includes a flexible portion 112 extending from an inner periphery thereof. The flexible portion 112 are in contact with top and bottom of the fan-shaped piston 10 so as to have a sealed function when the piston 10 is operated. Nevertheless, the packing 10 clamped between the two parts 12 is affected and/or deformed by the temperature change so that leakage happens from gaps between the packing 11 and the two parts 12 as shown in FIG. 8.

The present invention intends to provide a packing that includes a tongue to contact the insides of the two parts of the cylinder so as to prevent leakage between the packing and the half parts of the casing.

SUMMARY OF THE INVENTION

The present invention relates to a cylinder includes a casing composed of two parts and a piston is received between the two parts. The piston has a shaft which extends out from the cylinder, a packing is clamped between the two parts and a seal portion extends from an inner periphery of the packing. The seal portion is in contact with a top and a bottom of the piston. A seal tongue extends from each of the inner periphery of the packing and in contact with inside of the two parts.

The primary object of the present invention is to provide a packing that seals the conjunction portion between the two parts of the casing.

The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a cylinder with the packing of the present invention;

FIG. 2 is an exploded view to show the cylinder with the packing of the present invention;

FIG. 3 is a cross sectional view to show the packing in the cylinder;

FIG. 4 is an enlarged cross sectional view to show that the tongue of the packing contacts the insides of the two parts;

FIG. 5 shows that the tongue is flexible and touches the parts at different angles;

FIG. 6 is an exploded view to show a conventional packing and cylinder;

FIG. 7 is a cross sectional view to show the conventional packing in the casing of the cylinder, and FIG. 8 is an enlarged cross sectional view to show that the conventional packing cannot prevent leakage from the conjunction portion of the two parts.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1 to 4, the packing 11 of the present invention is clamped between two parts 12 of a casing of the cylinder 1 and a fan-shaped piston 10 is received between the two parts 12. One of the two parts 12 has an inlet 121 for introducing air in the cylinder 1 and the other part 12 has an outlet (not shown) to allow air to escape from the cylinder 1. The piston 10 has a shaft 101 which extends out from the cylinder so as to output torque. The packing 11 includes a seal portion 112 extending from an inner periphery of the packing 11. The seal portion 112 is in contact with a top and a bottom of the piston 10. A seal tongue 111 extends inclinedly from the inner periphery of the packing and is located close to the periphery of the packing 11 so as to be in contact with inside of the two parts 12. The seal tongue 111 made by flexible material such that it touches the insides of the two parts 12 at different angles.

When the fan-shaped piston 10 is pivoted about the shaft 101, the seal portion 112 seals the top and bottom of the fan-shaped piston 10 and the tongue 111 seals the conjunction portion of the two parts 12. As shown in FIG. 5, even if the packing 11 is deformed due to temperature change, the flexible tongue 111 of the packing 11 is still in contact with the insides of the two parts 12 such that leakage can be efficiently prevented.

While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

What is claimed is:

1. A cylinder comprising:
   a casing composed of two parts and a piston received between the two parts, the piston having a shaft which extends out from the cylinder, a packing clamped between the two parts and including a seal portion extending from an inner periphery of the packing, the seal portion being in contact with a top and a bottom of the piston, a seal tongue extending from the inner periphery of the packing and in contact with inside of the two parts.

2. The cylinder as claimed in claim 1, wherein the seal tongue extends in an outward direction from the inner periphery of the packing.

3. The cylinder as claimed in claim 1, wherein the seal tongue is made of flexible material.

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