

★★★ <第17回知的財産翻訳検定試験【第8回英文和訳】> ★★★

≪1級課題-機械工学-≫

【解答にあたっての注意】

1. 問題の指示により和訳してください。
2. 課題文に段落番号がある場合、これを訳文に記載してください。
3. 課題は3題あります。それぞれの課題の指示に従い、3題すべて解答してください。

問1. 次のクレーム (claims) の\*\*\*START\*\*\*から\*\*\*END\*\*\*の範囲を日本語に訳して下さい。この和訳は、パリルートの本国特許出願に使用されます。この際、クレームの原文の問題点の少なくとも一つをコメントで指摘するとともに、適切に対処して下さい。なお、翻訳にあたっては、明細書の記載（抜粋）と図面を参考にして下さい。

\*\*\*START\*\*\*

1. A drain on-off valve for draining liquid from a plumbing system, for example a central heating system, the drain on-off valve comprising:  
a valve body having an internal bore extending between an inlet end configured, in use, to be connected to a pipe of a plumbing system, and an outlet portion suitable for connection to a drainage hose;  
a rotatable shut-off valve arranged within the internal bore between the inlet end and the outlet portion to permit opening and closing of the drain on-off valve;  
a plurality of resilient seals in the internal bore; and  
an annular retaining member, wherein the rotatable shut-off valve is retained between the plurality of resilient seals, and the annular retaining member

retains the rotatable shut-off valve in a predetermined position.

2. The drain on-off valve according to claim 1, wherein the annular retaining member has an internal bore that is narrower than the internal bore housing the rotatable valve and the plurality of resilient seals.

\*\*\*END\*\*\*

明細書の記載（抜粋）

#### DRAIN OFF VALVE & METHOD OF CONSTRUCTION

The invention will now be described, by way of example, with reference to the accompanying drawings, in which: Figure 2a is a side-sectional view of a valve component in accordance with a first embodiment of the invention; Figure 2b is a side perspective view of the valve component shown in Figure 2a.

Referring to Figure 2, a drain off valve component 1 according to a first embodiment comprises an elbow-type valve having a first portion 2 and a second, drainage portion 3 which extends away from the central axis of the first portion by an angle  $\alpha$  of approximately 60 degrees. Both portions 2, 3 are formed of a single piece of material having an internal bore 4. Connected to the first portion 2 is a cylindrical valve body that has an internal bore of greater diameter than that of the first portion. Within this bore is located a rotatable ball-type valve comprising a substantially spherical ball 7 held between a pair of resilient O-ring seals 8. The ball has a cylindrical bore 9 passing through it to enable liquid to pass from one side to the other. The ball 7 is arranged to be rotated between open and shut positions, as indicated by arrow 10, by means of a pair of stems, or spigots, 11 (see Figure 2(b)) which extend opposite one another, orthogonal to main axis of the inner bore. Each stem 11 is connected to the ball 7 and passes through a respective

threaded hole formed in the sidewall of the valve body 5. The external end 12 of each stem 11 comprises a recess to enable either or both of an allen key or screwdriver tool to engage and turn the stem 11 about its central orthogonal axis.

As will be appreciated from the above, turning one of the stems 11 will cause the ball 7 to rotate between a closed position, where the bore 9 is perpendicular to the main bore 4, and an open position, where the bore communicates with the main bore. The configuration shown in Figure 2(a) is in the open position. Although two stems 11 are shown in this embodiment, only one is necessary. Having two stems 11 enables easier access if the component 1 is located in a hard-to-reach place or is placed close to a wall.

The ball valve 7 and the adjacent O-rings 8 are supported in position by a connector shaft 13 which is attached to the open end of the valve body 5. A larger, concentric bore is formed in said open end, providing a step 14 into which is mated a corresponding collar portion 14' of the connector pipe 13. The internal diameter of collar portion 14' is narrower than that of the valve body 5 to ensure the ball valve 7 and O-rings are retained in a predetermined position. At its other end, the bore of the connector shaft 13 has a wider diameter to allow an external pipe to be located therewithin and fixed, e.g. by soldering. Subsequent embodiments provide alternative types of connector shaft 13 for different fitting configurations.

In use, the drain off valve component 1 is fitted to a pipe of a plumbing system and the ball valve 7 is normally in the closed position. In the event that a plumber or heating engineer needs to drain or flush the plumbing system, or part thereof, e.g. a water tank, the plumber or heating engineer turns one of the stems 11 in the appropriate direction to open the valve (Figure 2 (a) position) . This causes liquid to pass from the external pipe, through the ball valve 7 and the internal bore 4 of the first and second portions for drainage out of the drainage outlet. The outer, distal end of the second

portion 3 includes a standard hose connector 3' to allow a flexible hose to be used.

問2. 次の従来技術の問題に関する記述を日本語に訳して下さい。英文の細かい表現にとらわれず、すべての工程と問題点を正確に訳出するように気をつけて下さい。

[0002] The desirability to reduce the dependence of jewelry manufacturers on the high-priced labor of skilled gem-setters has long been recognized. One known method utilizes a lost wax process for manufacturing jewelry by forming a rubber mold in which a wax model is cast to accommodate the gem and positioning the latter in the rubber mold prior to closing the mold and injecting the wax. The wax model bearing the gem set therein is thereafter removed from the rubber mold and a casting mold of plaster or the like is formed as an investment thereupon, so that, after replacement of the wax by precious metal by the lost wax procedure, the cast article is removed from the casting mold with the gem preset in the metal, thereby eliminating the step of setting the gem in cast metal.

[0003] In attempting to achieve the result of eliminating the need for a skilled gem-setter to complete the manufacture of an article of jewelry, conventional methods have been found to be inadequate with regard to the manner the gem is set in the wax model.

[0004] Specifically, the step of positioning the gem in an open rubber mold and then closing the mold with a high degree of care, so as not to displace the gem prior to injecting the wax, has been found not only to be relatively time consuming, but also unreliable. Such complications contribute to what is generally regarded as an unacceptable efficiency rate at this stage of the manufacturing process.

問3. 次の実施例の抜粋を日本語に訳して下さい。

[0018] A gearing arrangement 52 includes a hydro-mechanical transmission 54, a mechanical transmission 56, and a differential 72. The mechanical transmission 56 is operably coupled to a low-pressure spool 36 to receive input rotational speed of an engine 10. The differential 72 is operably interposed between the mechanical transmission 56 and a generator 50.

[0019] The mechanical transmission 56 receives a rotational input via a bevel gear 74 reflecting the rotational speed of the low-pressure spool 36. The bevel gear 74 is directly coupled to a carrier shaft 76 which transmits the rotation to the first differential gear arrangement 68, configured as a two-speed planetary gear arrangement.

[0020] The mechanical transmission 56 is selectively adjusted between at least first and second positions. In the first position, which is indicative of a 1st gear, the mechanical transmission 56 operates such that the input rotational speed of the carrier shaft 76 is transmitted through the first differential gear arrangement 68 and output to the differential carrier shaft 70 at twice the rotational speed of the low-pressure spool 36. By contrast, in the second position, which is indicative of a 2nd gear, the mechanical transmission 56 operates such that the input rotational speed of the carrier shaft 76 is transmitted through the first differential gear arrangement 68 and output to the differential carrier shaft 70 at the same rotational speed of the low-pressure spool 36.

【機械工学 問 1 図面】

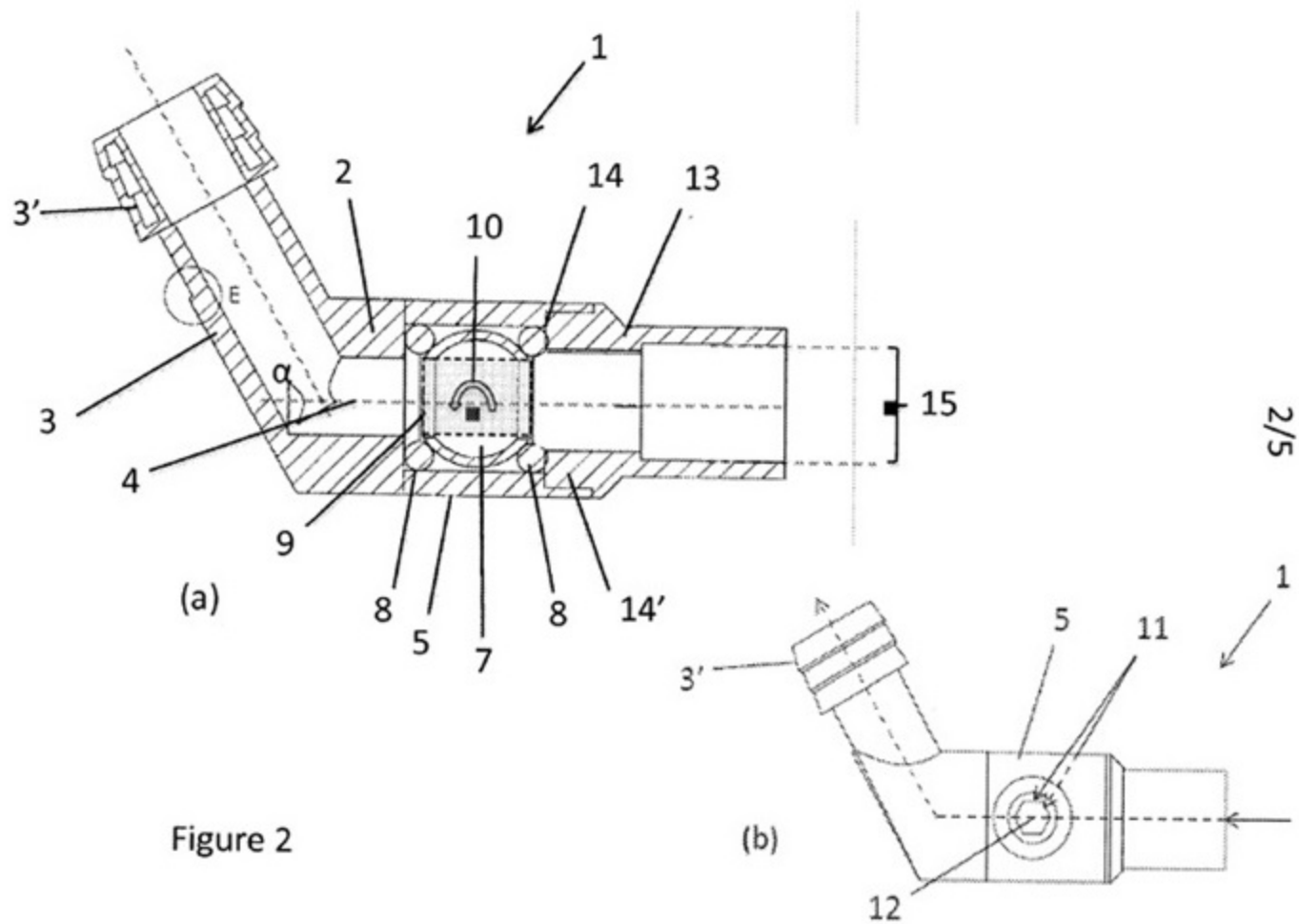


Figure 2