

★★★ <第29回知的財産翻訳検定試験【第14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. 解答語数に特に制限はありません。適切な箇所で行改行してください。
3. 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。
4. 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. 下記の従来技術に関する文を和訳してください。英文の冗長なスタイルや細かい表現にとらわれず、技術的なポイントが明確になる翻訳を心がけてください。

The reputation of 2 stroke engines aka, albeit imprecisely, scavenging engines, has certainly seen better days. Although scavenging, where exhaust is replaced with a draught of fresh vapor, is a principle used in other types of internal combustion arrangements as well, the original 2 stroke engine depended almost solely on scavenging to run. The absence of many parts used in a 4 stroke engine, for example, made for a lightweight and simple structure, easy to manufacture and to mount, but this very absence entailed shortcomings such as incomplete combustion and low fuel efficiency. In addition, issues of exhaust fumes containing raw fuel, difficulty to muffle (or rather the self-defeating nature of doing so due to increased weight), and so forth, far outweigh the aforementioned advantages in our modern automotive world. And attempts to somehow improve efficiency, like the reed and rotary valves, appear quite rudimentary and primitive in comparison with current fine-tuned and computer-controlled automotive engines.

Yet, the principle of scavenging itself has found a new home in these very engines; enter the scavenging exhaust manifold. Even as engines became more and more sophisticated and efficient, little thought was given to backpressure and turbulence in the exhaust, until engineers realized that these were thwarting their endeavors in further improvement. In an ideal scavenging exhaust arrangement, not only does exhaust from a previous

explosion not interfere with flow of exhaust from the subsequent explosion entering the collector, but rather aids it, by sucking it away from the engine, in rapid succession, which improves engine efficiency, particularly in a naturally aspirated arrangement, by way of a simple and inexpensive form. The beauty of it all is that this does not involve a complexity of parts and mechanisms, but rather the simplicity of diameters and curvatures of pipes. This has to be designed to handle the full range of revolutions of the engine by a rigid arrangement. Accordingly, patents of such technology will most likely include numerical claims, reached through countless man-hours of research and experimentation.

However, from the perspective of an ideal configuration, the related art has proved to be woefully inadequate and leaving much to be desired, due to the relatively recent advent of this technology and the amount of research work to be done. The Present Inventors have aspired to research and develop a new and novel way of achieving desirable results, without resorting to brute force of numbers.

問2. 下記の実施の形態の抜粋を和訳してください。文が長いので、適宜アレンジしてわかりやすい和文になるように翻訳してください。

A rotary fastener, or sheet metal screw, according to a first embodiment of the present invention includes a head, flat on the underside thereof so as to be flush with sheet metal when in place, the top thereof domed or hemispherical with a slot or slots formed therein, adapted to receive the tip of a standard or Phillips screwdriver when tightening or loosening, and a threaded shank perpendicularly fixed at a base end to the aforementioned underside and having a helical ridge (male thread) formed thereupon, and may be tapered in shape from the base end to a distal end to end in a point, with, in one arrangement, a V-shaped groove, parallel to the axial direction of the shank, cut in the shank from a position near the distal end of the shank to a position midway to the base end, so as to serve as a cutting edge of a self-tapping screw.

問3. 次の製造方法のクレームを添付の図面を参考にして日本語に訳してください。

4. A method for assembling a large scale chromatography structure, comprising:

providing a housing (300), wherein the housing (300) is configured to open, wherein the housing is capable of withstanding a pressure of less than 3 bar;

inserting a cartridge (100) into the housing (300); and

securing the cartridge (100) in the housing (300) wherein securing the cartridge (100) in the housing (300) further comprises providing a plurality of ribs (307 a-g; 309 a-g) disposed at the sides of the housing (300) to secure the cartridge (100) in the housing (300) and wherein the chromatography cartridge (100) is a pre-packed disposable cartridge disposed within the housing in a vertical position, such that flow within the cartridge in use is from side to side and the cartridge being arranged such that it includes a first mobile phase port (303) configured to receive process liquids and a second mobile phase port (305) configured to release process liquids each mounted to the side of the cartridge.

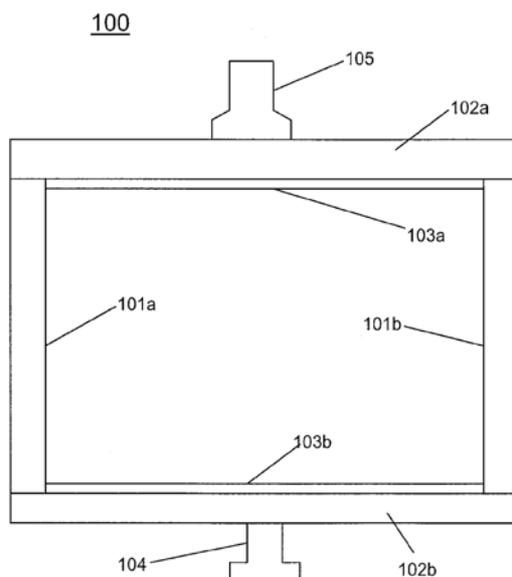


FIG. 1

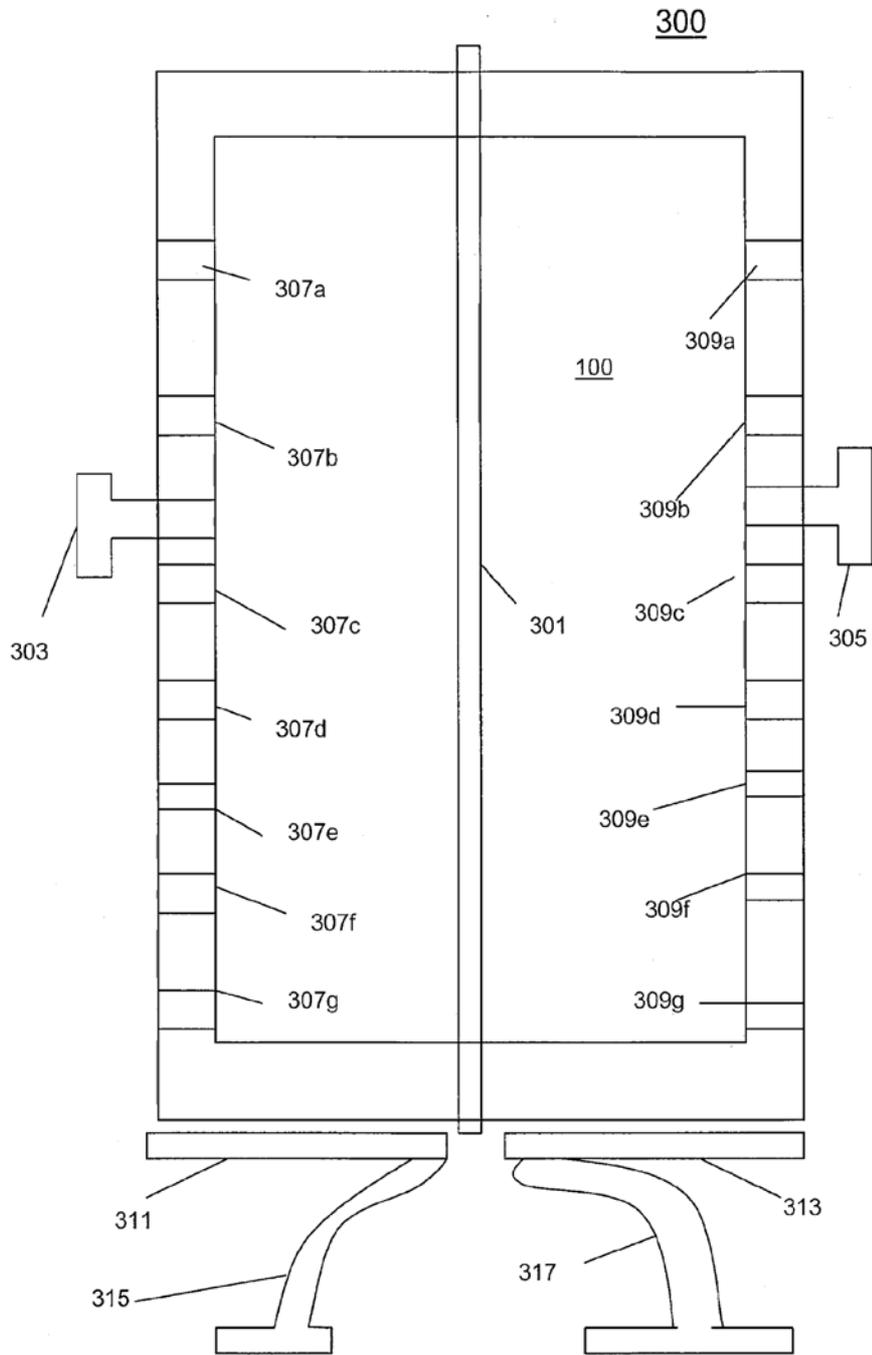


FIG. 3