

★★★ <第27回知的財産翻訳検定試験【第13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。適切な箇所で行って改行してください。
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 SLS (selective laser sintering) の従来技術に関する文を和訳してください。英文の細かい表現にとらわれず、技術的課題が明確になる翻訳を心がけてください。

[0009] Additionally, consistent powder characteristics are important for ensuring repeatable manufacture of objects. For example, metal powders used in additive manufacturing are assumed to be nominally spherical, and have a particle size distribution that is designed to facilitate good packing behavior, such that the final product has good mechanical properties. Manufacturers typically receive the base powder material from third-party producers in different batches. Each batch of powder material from a particular producer is assigned an identification number (e.g., batch number, lot number) for tracking and quality control checks. In conventional laser sintering methods, the manufacturers typically assume when different batches of powder from the same lot are used, that the powders are identical. Working under this assumption, they apply the same laser power setting for the SLS machine in sintering a particular powder material across different batches. However, such assumption is not grounded in reality, as there are often batch-to-batch variations in powder size, shape, melting points, glass transitions points, and other characteristics for a given powder material. This is especially true for semi-crystalline polymers such as PEKK that exhibit multiple melting points. Large particles tend to require more laser energy to fuse than small particles, so large variations in size can result in complete fusion of small particles (in one batch) and incomplete fusion of large particles (in another batch).

[0010] Thus, there exists a need in the art for an improved selective laser sintering method which utilizes lower laser power that is optimized for a given batch of powder material in order to consistently build the same object with greater tensile strength, as compared to the object being manufactured with high laser power.

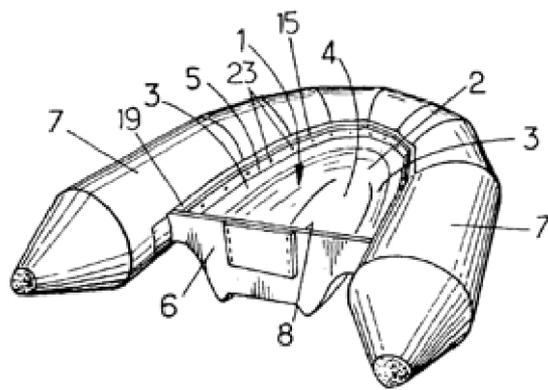
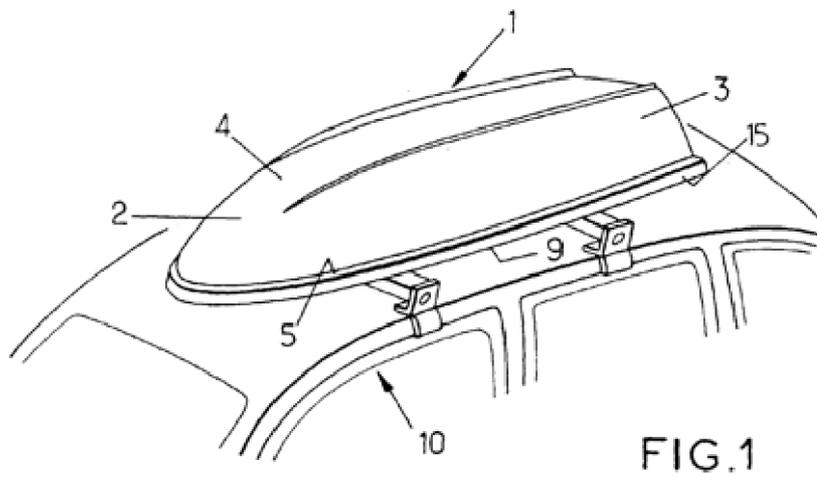
問 2. 図面を参考に下記の実施の形態の抜粋を和訳してください。

[0038] All the elements which have just been described can be arranged in two different functional configurations.

[0039] On the one hand, it is possible to realise a transportation and storage configuration, illustrated in FIG. 1, in which the inflatable body 7 is deflated and folded up inside the rigid tub 1 (this configuration can be seen in FIG. 3). The tub 1 is in this case arranged in upside down position on the rigid panel 9 forming the bottom lid and is bolted thereon with the aid of fastening means, preferably of the rapid-fastening type not shown in the figures. In this position, the edge of the panel 9 matches the shape of the edge of the tub 1. An outboard motor 13 can be joined to the inner face 11 of the rigid panel 9, following folding or removal of its control handle 14, by means of straps 12 and/or by means of its own motor screws screwed onto an appropriate projecting relief of the panel 9.

[0040] A closed box is therefore formed, which facilitates the storage of the craft and the protection of the deflated tube and, more advantageously, furthermore, is fit to be placed and fixed on the roof of an automobile 10, as shown in FIG. 1. The shape of the shell 1, arranged with the prow 2 facing forward in the direction of travel of the automobile, is appropriate from the aerodynamic aspect. The general shape of the box thus formed is close to that of a roof luggage box for an automobile and its use is similar.

[0041] On the other hand, it is also possible to realise a navigation configuration, illustrated in FIG. 2, in which the rigid panel 9 is detached and separate from the tub 1. The inflatable body 7 is inflated under pressure for its shaping around the tub 1, which in this case constitutes a rigid hull, the aggregate of the tub 1 and inflatable body 7 constituting a composite shell.



問 3. 次の装置（ジンバルマウント）のクレームを添付の図面を参考にして日本語に訳して下さい。さらに、和訳には、添付の図面を参考にして「magnetic holding means」及び「adjustment means」を最も良く表す参照符号をそれぞれ1つずつ挿入して下さい。

CLAIM

1. An apparatus for providing a surface angularly adjustable with respect to a reference surface (14), said apparatus comprising:

a magnetizable mount (21) in a shape of a sphere having a selected surface region (25) thereon;

magnetic holding means disposed between the mount (21) and the reference surface (14) for magnetically adhering the mount (21) to the reference surface (14) with sufficient holding force to provide a stable non-resonant structure while permitting the mount (21) to be manually adjusted about three axes of rotation; and

adjustment means for angularly positioning the mount (21) about three axes with respect to the magnetic holding means, said adjustment means including a plurality of openings (30 to 35) entering into the mount (21) from different angular locations on a surface of the sphere and a rod-shaped member (45) adapted to be removably fitted into said openings (30 to 35) for manual adjustment over a wide range of angles about said three axes.

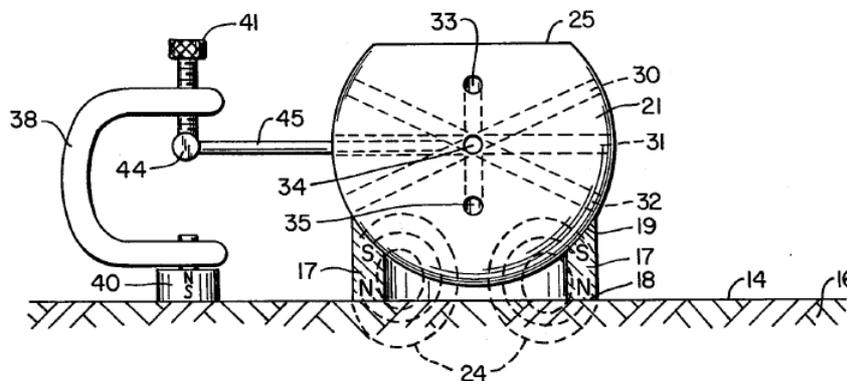


FIG. 1.