★★★ ＜第21回知的財産翻訳検定試験【第10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。適切な個所で改行してください。

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．次の背景技術の記載の抜粋を和訳してください。

英文の細かい表現にとらわれず、正確でわかりやすい翻訳を心がけてください。

[0001] The present invention relates to forming permanent magnets including rare earth (RE) materials, using high-velocity compression techniques to form magnets into shapes that require little or no post-formation machining.

[0002] Known RE magnet manufacturing processes begin with initial preparation, including inspection and weighing of starting materials (iron, iron-neodymium alloy and boron, as well as iron-dysprosium alloys or the like) for desired material compositions. The materials are treated and then subjected to grinding, mechanical pulverization, nitrogen milling, or the like, to form fine powder suitable for further powder metallurgy processing. This powder is typically screened for size classification and then mixed with other alloying powders for the final desired magnetic material composition, along with binders to make green parts through a pressing operation in a die. The magnet pieces are then cut and machined to the final shape.

[0003] Normally with the powder metal process, the density of the green part is about 50 to 55 percent of the theoretical density, which results in significant shrinkage during sintering. If the green part is symmetrical, the shrinkage is uniform; otherwise, it will distort and warp in a manner that is difficult to control. To avoid this, the magnets are usually machined from block material; this process results in a relatively large amount of material loss, where the yield is typically about 55 to 65 percent.

[0006] The high material loss during manufacturing has greatly increased the cost of the finished RE magnets. This cost has been exacerbated by a dramatic rise in the price of

the raw RE metals in the past several years.

問 2. 次の実施例の記載の抜粋を和訳してください。
なお、翻訳の際は図面を参照してください。
英文の細かい表現にとらわれず、正確でわかりやすい翻訳を心がけてください。

[0009] The present invention provides a tactile buttons device 1000 that is removably attachable onto a capacitive touch screen of any electronic device. The tactile buttons device 1000 illustrated in Figs. 2A and 2B is exemplified with four buttons 400a-400d disposed on an upper member 124a of rigid housing 120. In use, each button is disposed in register with a corresponding virtual button 16a-16d displayed on a touch screen. A film 200 is disposed across an open, lower rim 124b of the rigid housing 120, and an inter-contact member 600 with electroconductive islands 604a-604b is disposed on an interior face of the film 200.

[0010] The housing 120 is hollow but rigid. Corresponding to the four depressible buttons, there are four apertures 121 arranged in a cardinal manner. Each aperture 121 is shaped and sized to receive a resilient, deformable cone 300a-300d, which directly supports an associated depressible button 400a-400d; the resilient, deformable cones 300a-300d therefore give depressing of the buttons 400a-400d a tactile feel. The rigidity of the housing 120 ensures that the tactile buttons device 1000 will not become dislodged unintentionally.

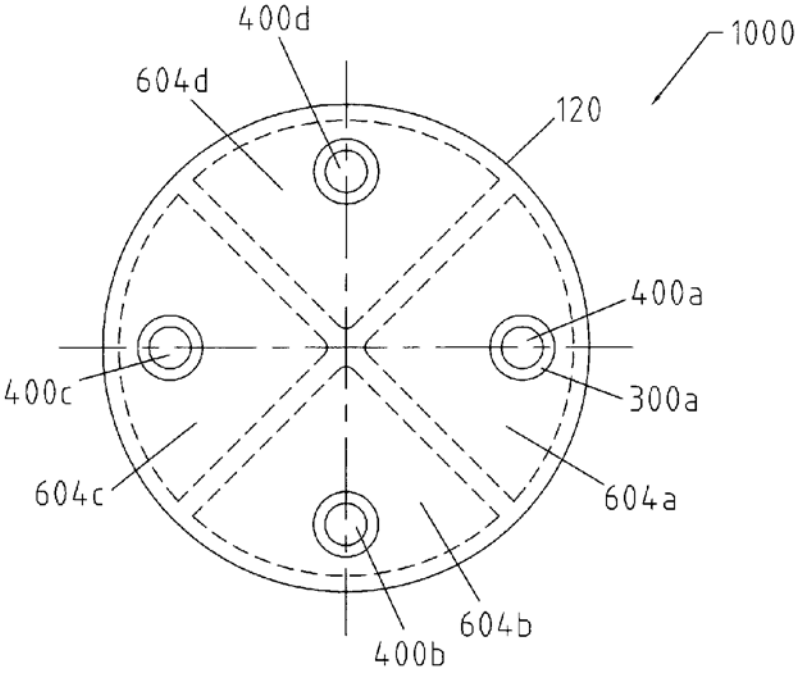
400d
1000
604d
120
400a
400c
300a
604c
604a
604b
400b

FIG. 2A

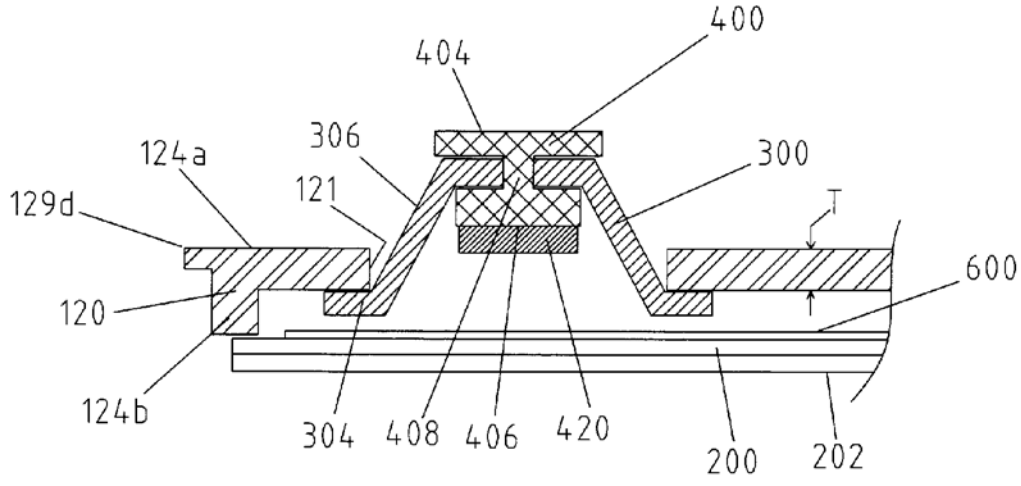
400
404
306
124a
300
121
129d
T
600
120
124b
304
408
406
420
200
202

FIG. 2B

問3. 次のクレーム（claims）を日本語に訳して下さい。
翻訳にあたっては、FIG.1を参考にし、指定用語を使って下さい。

What is claimed is:

1. An electrical power generation system comprising:

a tower (522);

a nacelle (524) supported by the tower;

a wind turbine system (520) supported on the nacelle such that the wind turbine system generates electrical power from wind;

a fuel line (548) extending through at least a portion of the tower;

a fuel cell system (544) arranged at least partly in the tower, wherein the fuel cell system generates electrical power from fuel carried by the fuel line, and transfers waste heat to fuel cell exhaust gas;

a solar absorber (560) supported by the tower, wherein the solar absorber transfers solar heat to a solar absorber heat transfer fluid; and

a heat recovery system (554), wherein the heat recovery system converts heat carried by at least one of the fuel cell exhaust gas and the solar absorber heat transfer fluid into electrical power.

2. A method of generating electrical power comprising the steps of:

providing a tower;

supporting a nacelle on the tower;

supporting a wind turbine system on the nacelle such that wind causes the wind turbine system to generate electrical power;

supporting at least a portion of a fuel cell system in the tower and the nacelle;

extending a fuel line extending through at least a portion of the tower;

connecting the fuel line to the fuel cell system such that the fuel cell system generates electrical power from fuel carried by the fuel line, and transfers waste heat to fuel cell exhaust gas;

supporting a solar absorber on the tower, wherein solar heat absorbed by the solar absorber is transferred to a solar absorber heat transfer fluid; and

operating a heat recovery system to convert heat carried by at least one of the fuel cell exhaust gas and the solar absorber heat transfer fluid into electrical power.

指定用語：solar absorber（太陽光吸収体）

FIG. 1