

★★★ <第23回知的財産翻訳検定試験【第11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. 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。

In the manufacture of micro-electronic components, it is common to etch the wafer substrate of those components. Etching is the process of removing silicon-containing substrate material from the wafer, especially from its surface. Etching commonly involves removing discrete amounts of silicon or other material from the wafer to expose other materials layered in the wafer such as buffers, masks, and/or insulation. Etching is also performed to clean the wafer surface, to polish the wafer surface to a desired degree of smoothness, and/or to create recesses or channels in the substrate for thermal or electrical shielding purposes or into which devices or other materials can be placed. Etching is a very precise process, performed in accordance with the physical properties of the relevant materials, only removing specific targeted material(s) and/or desired shape in the substrate. Etching can be fully isotropic but sometimes is also anisotropic.

問 2. 次の実施例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。

A two-hand operated cutting tool according to an embodiment, in the form of a "lopper" having a pair of handles operable to actuate a pair of cutting members, has a variable pivot system, and is characterized with an operator using both hands to grab each of the handles in order to actuate the tool. The variable pivot system is configured

to control the opening and closing of one of the cutting members and includes a geared portion and a slide portion that are actuated at different times through the progression of a cutting stroke of the tool. Herein, the cutting stroke refers to a start position of the handles (and, correspondingly, the cutting members) being separable by a maximum distance (full open) and an end position with the handles being separated by a minimum distance (full closed). Within a first region represented by an approximate one-third of the cutting stroke, the interaction between the handles and cutting members is provided by a slide portion of the variable pivot system. After the first region of the cutting stroke, the variable pivot system transitions to a second region for the remaining approximate two-thirds of the cutting stroke. In the second region, the interaction is provided by a geared portion of the variable pivot system. As such, during approximately the final two-thirds of the cutting stroke (where the cutting tool severs an object, such as a branch or tree limb), the variable pivot system provides a leverage profile defined by the geared portion. Thus, the combination of a geared portion and a slide portion in the variable pivot system provides for a variable mechanical advantage with the cutting tool. Further, by providing the geared portion at only a select travel region during the cutting stroke, human effort to cut objects using the hand operated cutting tool may be minimized at a key location (i.e., where the object is most resistant to being cut) during the cutting stroke.

問3. 次のクレームを日本語に訳して下さい。翻訳にあたっては、FIG.1を参考にして下さい。

1. An electron-beam welding apparatus using power supplied from a high-voltage supply unit, the apparatus comprising:
  - an outer housing (16);
  - a solid dielectric insulator (17) in the outer housing (16), the solid dielectric insulator (17) containing a plurality of electrical conductors (32);
  - a cathode (19) electrically coupled to the high-voltage supply unit through the plurality of conductors (32) in the solid dielectric insulator (17);
  - an anode (22);
  - a valve (23) configured to seal the cathode (19) and the anode (22) in the outer housing (16) in a first position thereof and to provide an electron-beam path through which an electron beam passes in a second position thereof; and

a controller configured to control the electron beam, wherein

the solid dielectric insulator (17) has a first liquid flow path (18) at a proximity of the plurality of electrical conductors (32),

the outer housing (16) has a second liquid flow path (21),

the first liquid flow path (18) has a portion close to the plurality of conductors (32) for a first liquid to cool the plurality of conductors (32) and the solid dielectric insulator (17) heated by the cathode (19) using flow of the first liquid in the first liquid flow path (18), and

the second liquid flow path (21) is disposed at a proximity of an outer portion of the solid dielectric insulator (17) and the first liquid flow path (18) for a second liquid to cool the first liquid.

**FIG. 1**

