★★★＜第１３回知的財産翻訳検定試験【第６回英文和訳】＞★★★

≪１級課題 -機械工学-≫

【解答にあたっての注意】

１．＊＊＊START＊＊＊から＊＊＊END＊＊＊までを和訳してください。

２．解答語数に特に制限はありません。

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] 次のクレーム（claims）を日本語に翻訳して下さい。
なお、翻訳にあたってはクレームの後ろの明細書の記載（抜粋）および図面を
参考にして下さい。

＊＊＊START＊＊＊

1.　A fluid flow meter comprising:

a fitting which is adapted to be attached to a pipeline and extends at least partially through an insertion aperture thereof having a diameter of less than 30 mm such that a first end of the fitting is disposed in the pipeline;

a measurement cylinder having a length of more than 30 mm, pivotally attached to the first end of the fitting, and including a fluid vortex generating obstruction; and

a sensor body extending through the fitting and having a sensor element at an end thereof which is at least partially disposed in the measurement cylinder so as to be downstream the obstruction and be aligned with the obstruction, and which detects fluid vortices generated by the obstruction;

wherein the measurement cylinder is selectively movable to a position substantially transverse to the primary axis of the fitting and substantially parallel to fluid flowing through the pipeline.

＊＊＊END＊＊＊

【参考】明細書の記載（抜粋）

TECHNICAL FIELD

The present invention relates to a flow meter based on the principle of vortex.

BACKGROUND

There is a continuing need for a vortex flow meter which is capable of being inserted into valves and pipelines having insert apertures or bosses with a diameter of less than 1.0 inch (approximately 25 mm).

PREFERRED EMBODIMENTS

The flow meter is substantially comprised of a fitting 102 having a measurement cylinder 104 pivotally attached to an end thereof. A sensor body 106 having a sensor 108 at an end thereof is received within the hollow fitting 102. A locking ring 110 securely connects the fitting 102 and the sensor body 106. A head unit 112 is attached to the end of the sensor body 106.

The measurement cylinder 104 is pivotally attached to the fitting 102 , such as by means of pins 114 and 116, so as to be positioned in alignment with the fitting 102 , and move to a position substantially transverse to the fitting 102. The fitting 102 and measurement cylinder 104 have an outer diameter which is less than the inner diameter of the insertion aperture 14, so as to be inserted therethrough and into the valve or pipeline 10. The fitting 102 is secured to the valve or pipeline 10 by means of threaded engagement between the

threads 118 of the fitting 102 and those of the insertion aperture 14. The fluid passes through the cylinder 104 and encounters an obstruction, sometimes referred to in the art as a bluff body 142.

[問２] 次の背景技術の記載を和訳して下さい。英文の細かい表現にとらわれず、原文の意図が和文に正確に反映されるように翻訳して下さい。

＊＊＊START＊＊＊

[0002] In printing systems with a collection of modules transporting substrate media using belts, slight skew misalignment of the modules will cause the module exit and entry velocity vectors to be misaligned. As substrate media is transferred between two modules, the difference in these velocity vector accumulates. The accumulation will translate into substrate media positioning errors between module exit and entry points, particularly in a cross-process direction. Such errors can cause large push, pull or shearing forces to be generated, which transmit to the substrate media being transported. Medium and light-weight substrate media cannot generally support large forces, which will cause wrinkling, buckling or tearing of such media.

[0003] Additionally, in overprinting systems more than one module is used to print onto each substrate media. In a belt driven overprinting system, substrate media is transported by belts from an image transfer zone in one module to an image transfer zone in another module. Thus, pushing, pulling or shearing forces on the substrate media can lead to image and/or color registration errors due to undesirable substrate media position or motion through the image transfer zone.

＊＊＊END＊＊＊

[問３] 次の実施例の抜粋を和訳して下さい。英文の細かい表現にとらわれず、原文の意図が和文に正確に反映されるように翻訳して下さい。

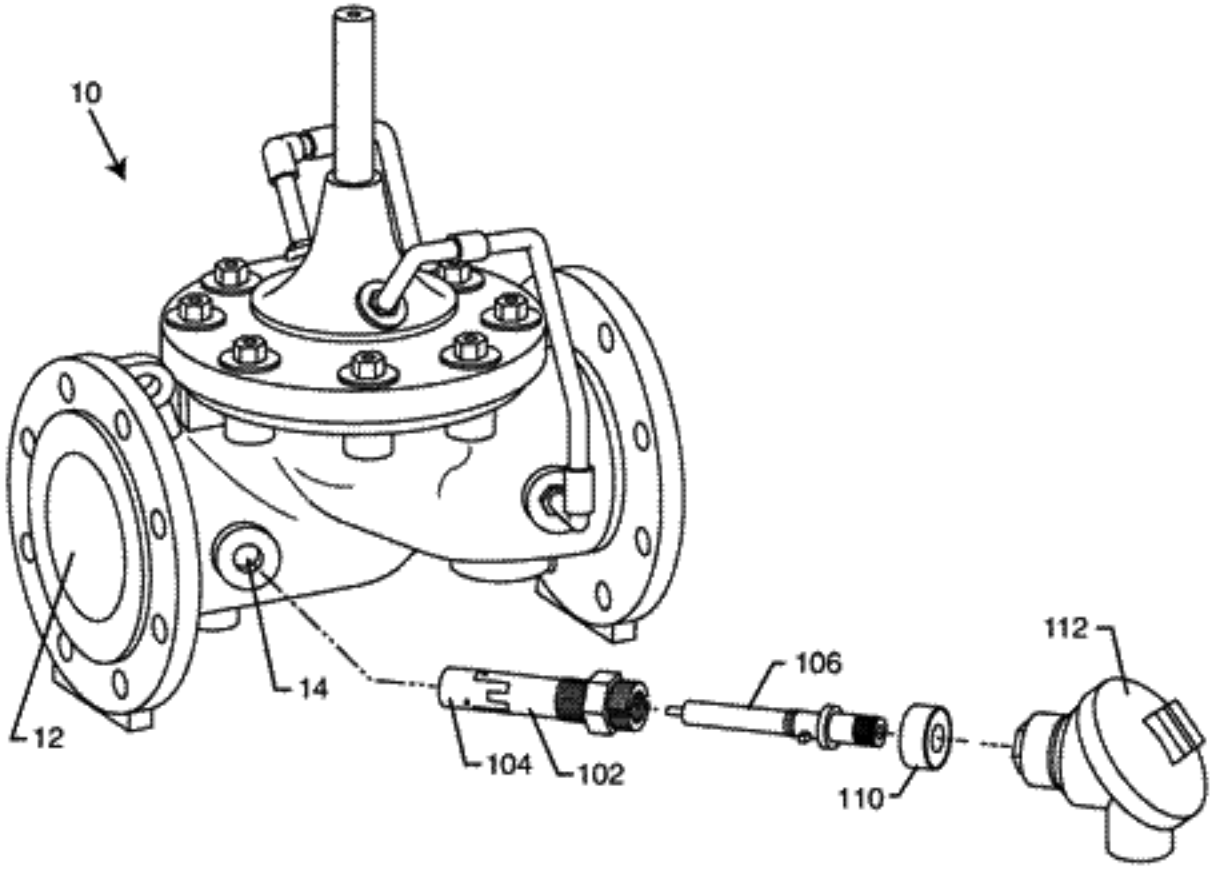
＊＊＊START＊＊＊

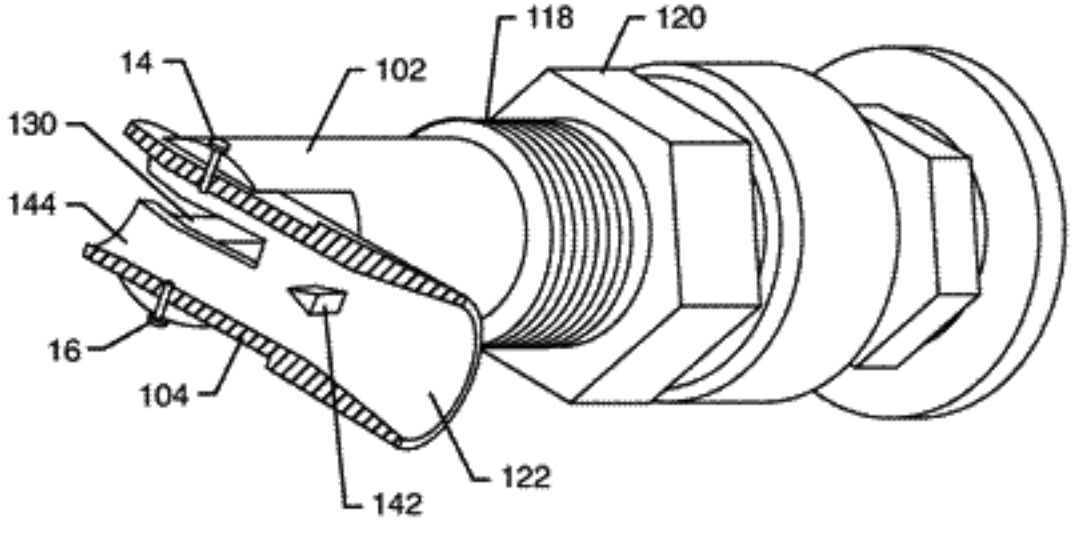
[0020] Fig. 1 is a cross-sectional view of a vent 150 of a mask according to an embodiment of the present invention, applicable to clinical settings. The vent 150 is intended for the use with a mask that requires a higher vent flow rate at low pressure. The vent 150 can be designed to work alone or in combination with a fixed bleed such as a fixed flow area bleed orifice. Where the vent 150 operates alone, it is preferably designed so that the flap 152 does not completely cover the vent orifice 160 and fully close the vent 150 under normal operating conditions.

[0021] It is preferable that the flap 152 be constructed of a lightweight material for fast response to pressure changes in the mask. However, the material must have sufficient stiffness to provide a spring bias against pressure changes in the mask yet the working stress of the flap is preferably designed to be below the endurance limit of the material to prevent fatigue failure from the repetitive alternating stress imposed by opening and closing the vent orifice. The strain is preferably designed to be below 1% at maximum deflection to prevent creep failure. The material thickness, material properties and the radius of curvature of the housing mainly control the stress and strain of the flap 152 and one or more of these parameters can be altered to adjust the stress and strain in the flap. The flap material is preferably made of a thin film and of a grade acceptable for medical application. Tolerances in the material thickness are preferably less than 10% to reduce variability in performance.

＊＊＊END＊＊＊

【１級／機械工学／問１／図面】





【１級／機械工学／問３／図面】

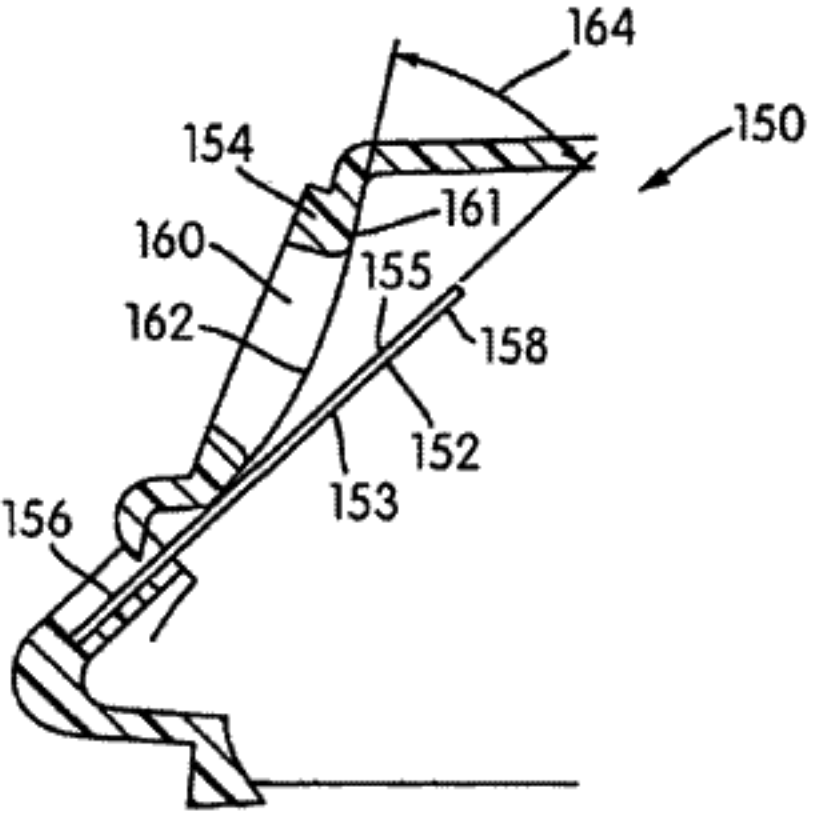


FIG. 1