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(56) Documents Cited
GB 2362145 A **GB 2314296 A**
GB 2187680 A **US 3683544 A**

(58) Field of Search
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Other: **Online: EPODOC, WPI & PAJ.**

(54) Abstract Title
Inflatable rocket-launching pad

(57) A rocket launch pad comprises an inflatable ring-shaped body 5, and has a buoyancy force which is capable of compensating the weight of an associated payload/rocket and it's propellants. The pad additionally comprises a network of clasping ropes 6, and a plurality of first and second stage air-breathing rocket engines 2, 3 respectively, windpipes 4 and a hot water container 1. The meridian curve of the ring shaped pad is described by the equation $((dY')/(1+(Y')^2)^{3/2})=(kr/l)(X)(dX)$ where X and Y are cartesian coordinates and Kr and l are constant values. The inflatable body 5, preferably having a plastic foam cover, may also be filled with hydrogen gas which may also act as a fuel for the first stage air-breathing rocket engines 2. The second stage rocket engines 3 are described as being compact nuclear rockets. In addition to the general application as a rocket launch pad, the invention is also described as being applicable to unmanned lunar flights with the aim of disposing radioactive waste.

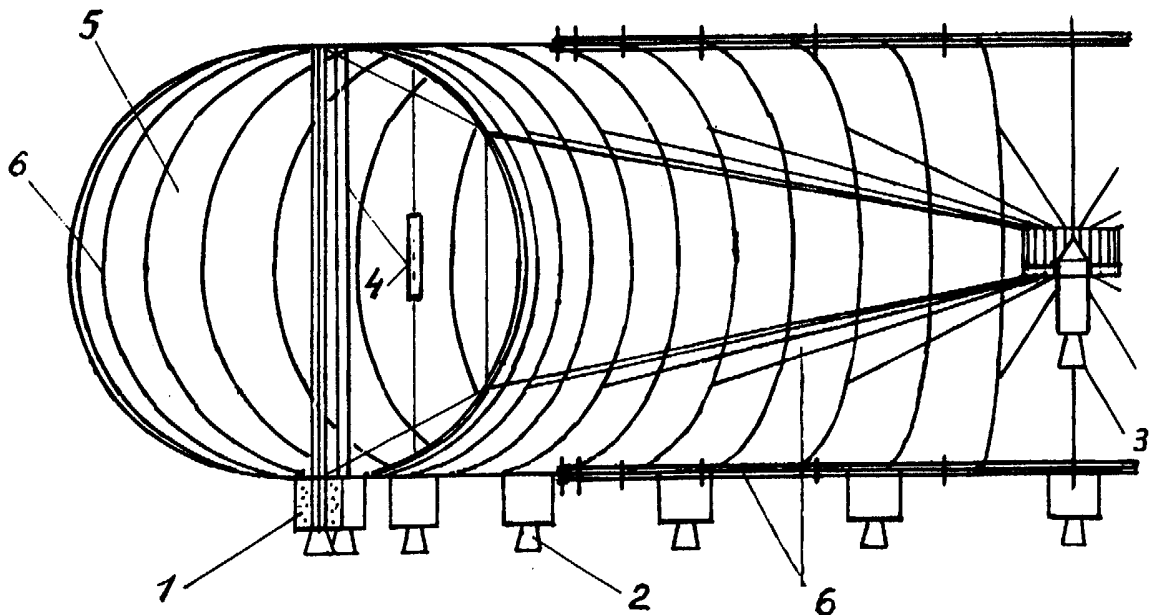


Fig. 1.

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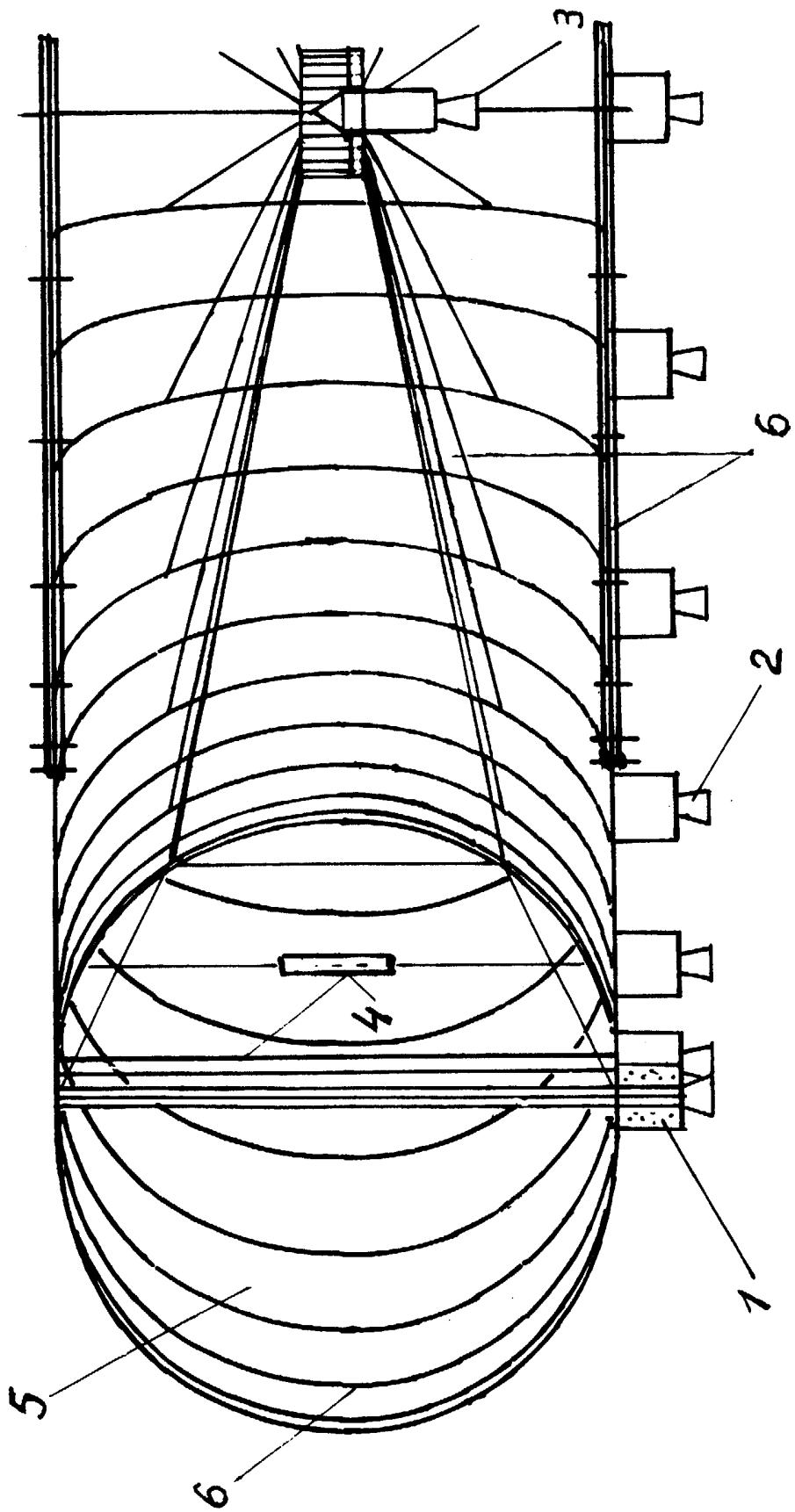


Fig. 1.

LAUNCHING PAD

The invention relates to launching pad of the type which includes inflatable body filled preferably with gaseous hydrogen. The buoyance force of the body compensates the weight of payload such as the rockets with the propellants. The gaseous hydrogen within the inflatable body serves as a fuel for the first stage of the air-breathing rocket-engines.

The well-known launching pads are stationary constructions most of which are fixed to defined part of the earth surface. The pressing demand for notfixed launches has, for example, prompted Boeing's ^(KLM) commercial space division to team up with RSC-Energia in Moscow and Kvaerner Maritime in Oslo to refurbish an oil rig and create a 34,000-ton displacement semi-submersible launch platform that will be towed to orbitally favorable launch sites.

The alternative is given by presented invention. The inflatable, filled with gaseous hydrogen, body could be used as a launch platform that will be towed to favorable launch sites and not only at the sea.

Accordingly, this invention provides a launching pad as an inflatable body with torusaffinitive shape in which the buoyance force balances the weight of payloads such as the rockets and its propellants.

Preferably the inflatable body has shape of the rotation object with a meridian-curve which let it to describe by following equation:

$$\frac{dY'}{(1 + (Y')^2)^{3/2}} = \frac{kr}{1} * X * dX;$$

where Y and X are Cartesius-coordinates, kr and l are constants. This equation facilitates the calculation of the forces in the network of ropes which does clasp the cover of said body. The cover of the body is made preferably from plastic foam.

Within the body is prevailing a low excess pressure, which remain constant during the rising of the construction when the hydrogen as a fuel will be used.

The propellants-belongings are additionally the containers with hot water. The first stage rockets does expel the jet as a mixture of hot air together with the steam.

A preferred embodiment of the invention will now be described with reference to the accompanying drawing in which

FIGURE 1 shows a side fractured view of the whole stand.

As shown in Figure 1, the pad comprises: a inflatable body 5 which is clasped from network of ropes 6, a plurality of the first stage air-breathing rocket-engines 2 together with windpipes 4 and hot water containers 1, second stage rocket-engine 3 preferable as so called Compact Nuclear Rocket.

The Compact Nuclear Rockets could be used for the disposal of the radioactive waste and plutonium, preferable in the MOX, from the earth to the moon by unmanned flights.

The presented invention would make this procedure easier.

CLAIMS

1. A launching pad including a inflatable body of a torusaffinitive shape in which the buoyancy force does compensate the weight of a payload such as the rockets together with the propellants.
2. A pad as claimed in Claim 1 where inflatable body is a torusaffinitive shape with a meridian-curve which let it to describe as follows:

$$\frac{dY'}{\sqrt{(1 + (Y')^2)^{3/2}}} = \frac{kr}{1} * X * dX;$$

where Y and X are Cartesius-coordinate, kr and l are constants.

3. A pad as claimed in Claim 1 where inflatable body is filled with gaseous hydrogen as a fuel for the first stage of the air-breathing rocket-engines.



INVESTOR IN PEOPLE

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Claims searched: 1 - 3

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Date of search: 19 February 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A	-	GB 2362145 A (GUENOV)
A	-	GB 2314296 A (KVAERNER MARITIME AS)
A	-	GB 2187680 A (SANKYU INC.)
A	-	US 3683544 A (PIPPIN)

Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^v:

F3C

Worldwide search of patent documents classified in the following areas of the IPC⁷:

F41F

The following online and other databases have been used in the preparation of this search report:

Online: EPODOC, WPI & PAJ.