LINEVICH Edvid

The mechanism which breaks the third law of Newton*

The mechanical system which structure includes two unbalanced bodies is investigated, varying with rotation is symmetric.
It is shown, that if rotation occurs to acceleration projections of their tangential pulse to an axis of symmetry at direct and reverse motion are not equal each other.
It means infringement of the law of preservation of a pulse.
That the law of preservation of a pulse was carried out, judged existence of external force, inertial on the essence influencing on the general center of mass of system.

Let's consider the mechanical system represented on fig. 1, consisting of two identical physical pendula (balances) m/2 and all other mass of the device M.
Balances, by means of a drive it (is not shown), can symmetrically rotate with cyclic change of a direction of rotation (with a reverser of rotation).
The point 5 designates a place of switching of a reverser.

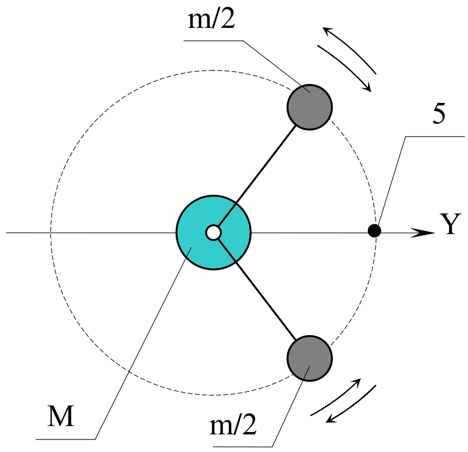

Fig. 1

The system represents linear oscillator with an axis of fluctuation Y.
Him can be represented thus as it is submitted on fig. 2 where × the arrangement of the center of mass of all system is designated, S_1 and S_2 - amplitudes of fluctuations, accordingly, mass M and m.

Let's put, that the system is strictly symmetric: M= m = 2m/2, therefore the subsequent calculation of change of a pulse it is enough to execute for one balance.
In considered mechanical system we use rotary fluctuation of balance with a point 5 reversers of his rotation in the middle of a cycle.

Mainly unidirectional tangential force enclosed to balance is in such a way created and is equal the force opposite to it enclosed to all other weight of the device.
Thus, under action of centrifugal forces, all system forms linear oscillator, in particular, with the axis of fluctuations Y which is taking place through a point of a reverser 5.

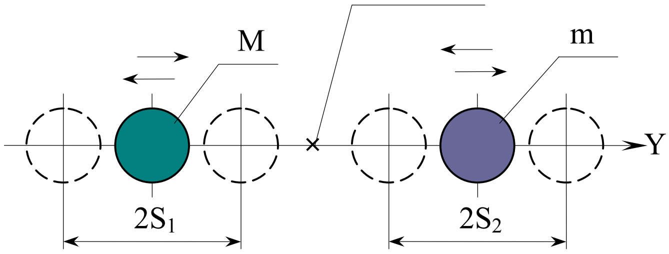

Fig. 2

Let's show, that in the device, at rotation of balance **with acceleration** from a condition of rest (a direct course), the size of a projection of a tangential pulse on an axis of linear fluctuation Y of all system, differs from its value at reverse motion, **with delay** of rotation.

On fig. 3 the circuit of fluctuations of balance with amplitude 90° is shown.

Designations are entered.

1- balances, 2 - axis, 3 - bar, 4 - all other mass of the device, 5- point of a reverser of tangential acceleration, A - starting position of balance, φ - a corner of readout from a point A, k - intermediate position of balance 1, P - a tangential pulse of balance, P_y - a projection of pulse P to axis Y (a direct course), P^y - a projection of pulse P to axis Y (reverse motion), P_X - a projection of pulse P to axis X, ψ - a corner of readout from a point of a reverser 5, B - in final position of balance 1 at reverse motion.

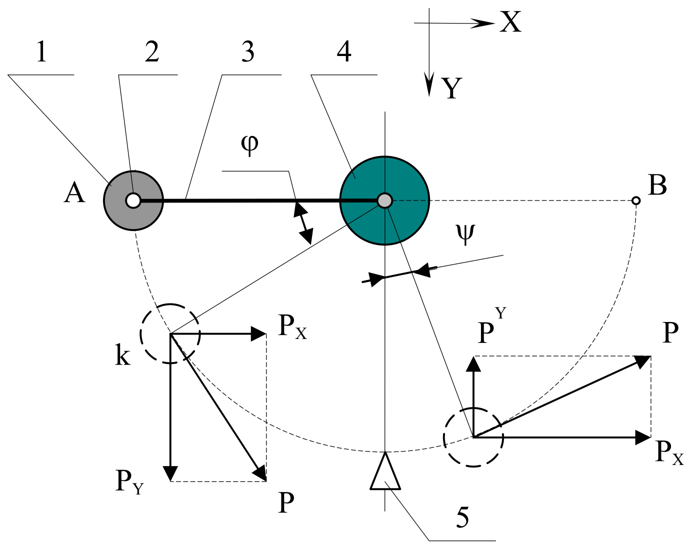

Fig.3

We name a direct course turn of balance 1 from a point A up to a point 5.

We name reverse motion turn of balance 1 from a point 5 up to a point B.

The balance 1 is established on axes 2, with an opportunity of free rotation on it. Thus, at rotation of a bar 3, it is possible to accept the moment of inertia of balance 1 around of an axis 2 equal to zero and to take into account him moment of inertia only relative mass 4.

For simplification of calculation we shall agree, that absolute value of tangential acceleration is constant during all period of fluctuation.

The tangential pulse is equal

$$P=m\cdot v=m\cdot a\cdot t, \quad (1)$$

where m - mass of balance 1, v - linear speed of rotation of balance, a - tangential acceleration of balance, t - current time.

Let's express time t through corner φ.

The length of arch S, movings of balance is equal

$$S=a\cdot t^2/2=\pi\cdot R\cdot\varphi/180,$$

from here $t=\sqrt{\pi R\varphi/90a}$, (2)

where R- radius of rotation of balance 1.

We substitute (2) in (1) and it is received in result

$$P=m\sqrt{\pi R\varphi\cdot a/90} \quad (3)$$

Projection P to axis Y (direct course) is equal

$$P_y=P\cdot\cos\varphi = m\sqrt{\pi R\varphi\cdot a/90}\ \cos\varphi . \quad (4)$$

To it there corresponds equally opposite pulse (-Py), the pulse of jet feedback enclosed to other mass of 4 devices along axis Y.

We pay attention to that the maximal value of pulse P_y corresponds to some corner φ_0.

Let it will be in a point k on the circuit.

After this point, value P_y decreases up to zero in a point of a reverser 5.

However, thus tangential pulse P continues to increase and after a point k (because on a condition, rotation occurs to **acceleration**) and reaches a maximum in a point 5

$$P_{макс}=m\sqrt{\pi Ra} . \quad (5)$$

As a result of a reverser of tangential acceleration, the size of a projection of pulse P^y (reverse motion) is equal

$$P^y = (m\sqrt{\pi Ra\cdot\psi/90} - P_{макс})\sin\psi , \quad (6)$$

where ψ - size of a corner of a deviation of balance from a point of a reverser 5.

Let's find a difference ΔP pulses of direct and return courses

$$\Delta P = P^y - P_y \quad (7)$$

Comparison can be made only for identical corners Ψ.

Let's express corner φ through Ψ

$$\varphi = 90 - \Psi$$

and we shall copy the equation (7)

$$\Delta P = (m\sqrt{\pi Ra\cdot\psi/90} - P_{макс})\sin\psi - m\sqrt{\pi Ra(90-\psi)/90}\cdot\sin\psi . \quad (8)$$

From (8) it is visible, that ΔP = 0 only for two extreme values of a corner (ψ = 0°, ψ = 90°). For all other values of corner ψ, ΔP ≠ 0!!

Physically it means infringement of the law of preservation of a pulse.

The reason of such result not in mathematics, and in physics of process.

The increase of absolute value of tangential pulse P and his projections P^y, occurs due to increase orthogonal to axis Y of a component (due to increase P_X).
And at any change of pulse P_X, there is no jet feedback to it along axis Y.
In this case the third law of Newton is not carried out (because: **action is always equal to counteraction along one general straight line and is not distributed to a perpendicular direction**).
The similar increase of a pulse for all other mass 4 of system is absent, because she does not rotate, and only linearly oscillate along axis Y.
By the way, the similar case of default of the third law is known and in electrical engineering, at interaction of two mutually perpendicular elements of a current (or charges) [14], [19].
However, according to the law of preservation of a pulse, **change of a projection of a pulse of mechanical system on any axis should be equal to a projection of a pulse of the external force acting on system, to the same axis.**
As in a considered case, any foreign bodies it is not observed, which could create external force, as foreign (external) force it is necessary to recognize force of inertia of balance.
She does not change the direction for axis Y during all period of fluctuation, and it is necessary to recognize as its source space which is borrowed with mass of balance.
Thus, to a nonzero difference ΔP pulses of balance at direct and reverse motion there corresponds an external pulse $\Delta P = - \Delta P$: it is a pulse of force of inertia (a pulse of force of counteraction) balance to his acceleration.
And time this force external, she can shift the center of mass of all system (without use of a support, of traditional performances).
Further, it is necessary to recognize, that time space has power properties it, is also an energy source of acceleration of all mechanical system.
In our system two balances, therefore numerical value ΔP are applied is necessary to double.
The difference of projections of pulse P on an axis X, at direct and reverse motion, is equal $\Delta P_X = 0$ during all period of fluctuation of balance, because after each crossing of axis Y by him, the projection of tangential acceleration to an axis X changes the direction on opposite.
We considered strictly symmetric system including three objects: two balances and all other mass of the device.

The asymmetrical circuit in which one of balances is replaced with a gyroscope [9], [15] is technically feasible also.
The conclusion.
And so, we have found out, that in mechanical system, with cyclic fluctuation of a unbalanced body (balance) with a reverser of tangential acceleration, there are centrifugal and tangential forces.
Thus, under action of centrifugal forces, system linearly oscillate concerning its general

center of mass, not changing his position in space.

As a result of action of tangential forces, arises unbalanced a component, enclosed to the general center of mass of system along an axis its linear oscillation and directed aside actions of tangential force of inertia of balance.

The received conclusion gives a theoretical explanation to occurrence superfluous components of force and energy in known inertial drives in which their authors have found out a positive effect, but and could not prove his true reason (for example, [20]).

Quantitative results can be used:

- at creation of power drives to electrogenerators for reception of electric energy, thus it is not required applications any, traditionally now in use, energy sources (oil, gas, a nuclear energy, etc.);
- at creation of power drives for movement of various vehicles, including - space.

* Translation from the original: Линевич Э. Третий закон Ньютона не выполняется для неуравновешенного тела с вращательным колебанием// - «Гравитон» №12, 2005, с. 9.

Sources of the information

1. Линевич Э. И. «Геометрическое обоснование эксперимента Хаясака-Такеучи с вращающимися роторами». Доклад на 2-ой СНГ Межнаучной конференции «Единая теория мира и её практическое применение». 20-21 сентября 1993 г. Петрозаводск, Россия.
2. Hayasaka H., Takeuchi S. Phys. Rev. Lett.- V.63. P.2701-2704.
3. Линевич Э. И. Явление антигравитации физических тел (ЯАФТ).- Хабаровск: ПКП «Март», 1991.
4. Линевич Э. И. Динамическая симметрия вселенной.- «Природа и аномальные явления» № 1-2, 1995, с. 6, г. Владивосток.
5. Линевич Э. И. О технической возможности управления темпом времени.- «Гравитон» №8, 2002, с. 10-11.
6. Kishkintsev V. A. Galilean Electrodynamics, 1993. V.4, №3, P.47-50.
7. Forward R. L. Journal of Propulsion and Power. 1989 №1, p.28-37.
8. Линевич Э. И. Аналитический вывод физических констант на основе классических представлений.- Ноябрь 1999 (в переписке с ред. «Гравитон» и с bradleu@usra.edu), или <http://www.dlinevitch.narod.ru/analitika.htm>
9. Линевич Э. И., Ежов А. Ф. Инерционный движитель.- «Новая энергетика» №3, 2004, с. 12-15.
10. Линевич Э. И. Гравиинерционный двигатель. Патент RU2080483. 4.05.1994
11. Астахов А. В., Широков Ю. М. Курс физики т.3. Квантовая физика/ Под ред. Ю. М. Широкова.- М.: Наука, 1983.
12. Шипов Г. И. Теория физического вакуума: Теория, эксперименты и технологии. 2-е изд., испр. и доп.- М.: Наука, 1996.
13. Абрамов И. М., Брехман И. И., Лавров Б. П., Плисс Д. А. «Явление синхронизации вращающихся тел (роторов)». Диплом №333. Журнал «Открытия изобретения» №1, 1988.

14. Калашников С. Г. Электричество.- М., 1977, с. 155.
15. www.dlinevitch.narod.ru
16. <http://www.ntpo.com/physics/studies/28.shtml>
17. <http://www.sciteclibrary.ru/rus/catalog/pages/3964.html>
18. Яблонский А. А. Курс теоретической механики. Ч.2. Динамика.- М., «Высшая школа», 1971.
19. <http://www.tts.lt/~nara/amper/neutron.html >
20. Толчин В. Н. Инерцоид.- Пермь: Пермское книжное издательство. 1977.
21. Pound R. V., Rebka G. A., Phys. Rev. Let., 1960, V.4, P.337.
22. Linevich E. I. On basics of potential dynamics.- «New Energy Technologies» #2, 2005, p.44 - 48.