GRAMMATICAL DIFFICULTIES OF TRANSLATION

Ex.1. Point out in which of the sentences constructions similar to "the more..., the better" are used; translate the sentences.

1. The more perfect the organization and the more intricate the machinery, the more necessary is intelligent leadership.
2. The larger elements – hotel, theatre, recreation centre, and the like – are located at the geometric centre of the group, and the smaller but more necessary conveniences are duplicated at the several substations.
3. In general the heavier the brick, the stronger it is.
4. As the temperature rises the conductivity decreases, but the more a metal is rolled and hammered the closer the structure is made and the greater its conductivity.
5. In all buildings of two stories or more, except dwellings, the thickness of the lower portion of the wall is greater than that of the upper part.
6. They occupy the full height between the lower side sections and the higher central nave of the temple.
7. From the table we see that in general the better a metal conducts heat, the better it conducts electricity.

Ex.2. Translate the sentences paying special attention to the use of the indefinite article.

1. A knowledge of this architect’s alphabet is as essential to him as a knowledge of words to the writer or of notes to the musician.
2. London had a million inhabitants at a time when in many quarters the water supply was turned on only twice a week.
3. In very large cities schools are sometimes built higher, but it is an exception.
4. The low rent is in a sense an addition to wages.
5. Each block has a central stairway and two lifts.
6. On the north side there is a series of rooms providing offices and employees’ accommodation.

Ex.3 Translate the sentences having the + Adjective or Adverb in the comparative degree and the + Adjective or Adverb in the comparative degree constructions (similar to the more... the better).

1. The higher the gamma-radiation level, the greater would be the injury severity caused to a person.
2. The further Pluto was studied, the more remarkable properties it revealed.
3. The stronger the magnet, the more of magnetic lines of force pass through a given space.
4. The more carbon the steel contains the harder it becomes.
5. The higher the balloon flies, the greater pressure is exercised against its inner walls.
6. The wider the band of frequencies is, the greater will be the capacity of the communication channel.
7. X-rays are electromagnetic radiation, which is weakened by interaction with the outer clouds of electrons orbiting the atomic nucleus. The heavier the element (the higher the atomic number), the denser is the atomic cloud and the harder it is for X-rays to penetrate.
8. The broader the knowledge available, the sooner are the difficulties explained.
9. The higher the temperature, the lower the pressure, less time is required.

Ex. 4 Translate the sentences with the construction the former ... the latter.

1. Two kinds of radioactivity are distinguished: alpha-activity and beta-activity, the former is caused by emission of alpha particles and the latter by beta-particles emission.
2. In xeroradiographic inspection it is undesirable to use conventional fluorescent screens, for the latter diminish image definition.
3. The mass of an atom does not determine its chemical properties, the latter depends primarily upon the charge of its nucleus.
4. They applied X-ray examination and neutron radiography. Both the former and the latter methods gave similar results.

Ex. 5. Point out in which of the sentences the word in bold type is a noun; find the indications to the fact. Translate the sentences.

1. The limit switches automatically divide the work between the two machines.
2. The importance of a sufficient water supply for domestic and industrial purposes has long been a deciding factor in the location of cities.

As the communities grow in population it becomes highly important that specially designed treatment plants should supply sufficiently pure water for consumption.
3. The quantity and the quality of water drawn from this polluted and shallow well could not meet the growing demand of the community.
4. To meet the growing demand of the community water was drawn from this polluted river and thus had to be well treated to assure its purity.
5. The characteristics of non-ferrous metals let the engineers for whom high heat conductivity and corrosion resistance are important use them in construction.
6. In some localities water is available in unlimited quantities and converting it to use is not a difficult problem.
7. At the present time, however, the equipment capable of capturing and retaining solar energy in quantities great enough to heat a building is both cumbersome and costly.

We have come to realize that we can take advantage of the sun's heat in winter if only we allow its unobstructed entrance into our buildings.
8. Like all new elements it needs to be handled with as great imagination as any of the elements of the past.
9. It is usual to plan additional stages to meet estimated needs beyond ten years.

Ex. 6 Translate the following attributive word-groups.

Noun + Noun
I. sound barrier, depth bomb, piston engine, altitude flight, trial flight, aviation fuel, aviation medicine, sea mine
II. airplane aerodynamics, helicopter aerodynamics, propeller aerodynamics, wing area, airplane body, airship body, bank indicator, course indicator, range indicator, speed indicator
III. ski landing, water landing, crosswind takeoff, instrument takeoff, water takeoff, compression test, fatigue test, reliability test

Noun + Noun + Noun
1. engine speed indicator, missile range measurement, shaft rotation speed, target identification system
2. sea-level pressure, missile-movement information, parachute-test missile, sea-level velocity, moon exploration vehicle, motor test vehicle
Adjective (Participle) + Noun + Noun
1. effective wing area, automatic flight control, automatic temperature control, automatic fighter direction, automatic bomb release, effective aircraft thrust
2. vertical speed indicator, guided missile control, boundary layer measurement, magnetic field measurement, automatic stabilization system, interplanetary communications system, supersonic wing theory
3. fixed-wing aircraft, constant-level flight, high-temperature flight, low-altitude flight, high-acceleration missile, high-speed test, low-pressure test, low-speed test

Ex. 7 Translate the following attributive word-groups.

Army aviation, commercial aviation, passenger aviation, ambulance aviation, tactical aviation, commercial pilot, first pilot, helicopter pilot, skilled pilot, test pilot, actual speed, climb speed, cruising speed, flight speed, flying speed, landing speed, near-sonic speed, supersonic speed, air transport, commercial transport, emergency equipment, poor aerodynamic design, cockpit seat, single-bladed rotor, three-bladed rotor, rear rotor

Ex. 8 Translate the following sentences paying special attention to “much” and “far” used to emphasize comparison and to such constructions as “however + adj.”, “adj. + though”, etc.

1. The architect should therefore have full knowledge of these facts before he goes too far in his designing.
2. Investigations have led to some definite results but there remains much to be done.
3. So far as the author of this chapter knows, there is no port in the United States where such a crane is used.
4. In the late thirteenth century glass still remained far too rare and expensive a material for common use.
5. It is a cardinal principle to remember that bending moments do play an important role small though they be.
6. However small the change in shape about this axis may be, it gives increased strength about the other axis.
7. There are, however, numerous public rooms in which natural light is still the pleasantest and the best.
8. Though being more expensive, non-ferrous metals are widely used.

Ex. 9 Translate the following sentences.

1. The important measurement parameters are presented in Table 1.
2. A complete requirement documents should include the facts about the device.
3. This research describes the development of a digital computer simulation model.
4. Argument force rather than force argument should dominate.
5. They have used the conventional crystal growth method.
6. Here frequency dependent rate equations are applicable.
7. They have constructed a gas-filled high pressure cell.
8. Such integrity has been achieved by a combination of manual and computer based controls.
9. They presented the mass of data necessary for effective land use planting.
10. Two additional large centrifugal type heat pump water heaters have been provided.
11. This time all the observations were made with the world’s largest six metre telescope.
12. This is a new six-axle all-metal articulated tramway wagon.
13. The semiconductor thermoelectric household refrigerator is designed for artificial cooling or storage of foods in your home.
14. That was the world’s first push-button controlled solid fuel heating system.
15. To solve the problem they decided to make use of the helium-neon laser beam penetrating power.
16. Psychology and anthropology are the most clearly related to biology social sciences.
17. In what follows this representation provides useful basis for definitions of problem situations.
18. Experience shows that work study does in fact provide one of the most valuable means of improving production efficiency.
19. In addition to the organizational approach, chief programmer team operations are based on two major innovative disciplines.
20. All commands are forwarded to the microdensitometer through the microprocessor based controller.
21. In such cases the time-delayed ion ejection method proved particularly valuable in determining the equilibrium constants.
22. The subject of this paper involves the implementation of a maximum absolute error algorithm comparison criterion.
Ex. 10 Translate the following text.

System identification has arisen in different areas of application where the system model is completely unspecified but one wants to predict the system response, to regulate the system, or to simulate the system. The only data available are a sequence of known input and a sequence of noise corrupted output. The intermediate objective is to specify a model which agrees with the statistical data. To perform system identification requires three steps: structure determination, parameter identification, and model verification. Before solving the parameter identification problem, one would address the problem of identifiability of parameters. With an assumed structure, is it very possible to identify the unknown parameters by extracting information from deterministic input and stochastic output data? The capability of answering this question will facilitate the selection of an appropriate model structure. Clearly, one would not select a model structure whose parameters cannot be identified. Thus the question of parameters identifiability is central in the procedures for system identification.

Ex. 11 Point out in which of the sentences the constructions similar to It is ... that are used; translate the sentences.

1. It is prefabrication that speeds up construction work.
2. It is usual practice to allow operators a certain specified time over and above the normal hours worked to service the plant they operate.
3. It is in the kitchen where all these types of built-in furniture are most widely used.
4. Such structural elements are of vital importance; it is with these that the architect must project an integration of the whole in order to create a work of architecture.
5. It is desirable that the problem should be solved before the airplane test flights begin.
6. It is desirable that a number of trained and qualified examiners have the opportunity to test a future astronaut.
7. It is essential that the wing construction be aerodynamically stable.
8. In order to understand the movements of bodies in orbit, it is essential that certain laws and principles be considered.
9. In case of emergency it is important that the pilot take measures immediately.
10. It is important that the spaceship should start at a preset time.
11. It is unlikely that the liner should fly so low.
12. It is within this group of planets that life could exist.
13. It is the combination of these two effects that causes the slowing of the air current.
14. It is at this point that the shock wave begins to curve.
15. It was in the 1520s that the Polish astronomer Nicolaus Copernicus showed that the Earth was a planet and that it moved around the Sun.
16. It was not until 1946 that man actually made radio contact with another body in the solar system.
17. It was the high-speed flights which brought about the introduction of the "ejector seat".
18. It is perhaps for this reason that their results are not acceptable.

Ex. 12 Point out the sentences in which that-those and this-these are used to substitute nouns; translate the sentences.

1. The method of analysis used was the same as that for elastic columns.
2. The Egyptian pyramids proved that stone is one of the most durable materials.
3. The materials used in making the tests shall be similar to those to be employed in the work.
4. The reinforcement in the bottom is that required to resist the bending moment.
5. The water content shall be as nearly as practicable equal to that to be used in the work.
6. In this statically indeterminate structure there will be six unknown components of reaction.
7. Three basic schemes for protection against re-entry heating were developed. These use thermal capacity, thermal radiation and material ablation.
8. The efficiency of the engine depends largely on its intake system and its exhaust system. These can be altered to suit the different conditions of subsonic and supersonic flight.
9. Manned satellites are usually placed into orbit for a few major purposes, and when these are accomplished, the pilots return back to the Earth.
10. Small meteorites can damage the body of a spaceship. This can be prevented by using a bumper screen.
11. The original problem is now broken up into three regions. These are loss free regions.
12. With a welded repair to cast iron, the more rapid cooling of the surface will cause this to contract more rapidly than the interior.
Ex.13 Translate the following sentences paying special attention to the use and the meaning of the pronoun one.

1. This particular case is precisely the one most commonly used.
2. In designing a block of flats one should care that everything possible is done to create the most comfortable living conditions.
3. Matters of major importance should be covered in detail though lesser ones may warrant only brief explanation.
4. One should be aware that some stainless steels when heated to between 500 and 900°C lower their resistance to corrosion.
5. The liquid rocket motor comprises two rocket engines—the main and a reserve one.
6. The landing process of a spacecraft comprises two stages. The first stage involves departure from the orbit. The second one consists of reentry into dense atmosphere and soft landing.
7. There exists a severe problem of returning from space for all manned vehicles and for some unmanned ones.

Ex.14 Translate the following parts of the sentences.

1. One assumes that ... 2. One believes that ... 3. One may include that ... 4. One should expect that ... 5. One should not forget that ... 6. One must note that ... 7. One will obtain that ... 8. One observed that ... 9. One should point out that ... 10. One should recognize that ... 11. One will see that ... 12. One may suppose that ...

Ex.15 Translate the following sentences. Pay attention to the translation of passive forms.

1. The results must be accounted for.
2. The idealized structure of the fuselage was finally arrived at.
3. The preflight inspection of the airplane was insisted upon by the flight engineer.
4. Such a device cannot be relied upon.
5. The equipment for this experiment was sent for.
6. The lunar exploration programme has been much written about.
7. In planning the development of bases on the Moon account must be taken of environmental conditions.
8. Advantage was taken of this newly-discovered phenomenon.
9. Attention has been called to these specific features of the turbofan engines.

Ex.16 Translate the following sentences.

1. The question of the laws of resistances in circuits may now be turned to.
2. Many materials now commonly used were not even thought of thirty years ago.
3. Biological methods of purifying water are given much attention by scientists.
4. The range of application of gas chromatography is wide and most substances boiling under 300°C can be dealt with readily.
5. When exposed to a beam of light this movement becomes oriented in the direction of the beam, and on a vertical surface it becomes directed by gravity.
6. The speed with which arithmetic operations are performed is affected by a number of factors.
7. The qualitative examination of an organic compound is followed by a quantitative analysis.

Ex.17 Translate the following sentences paying special attention to the modal verbs.

1. Many basic principles are still to be established.
2. If practical answers are to be found and the factor of safety is to be put on a firm calculable basis a large number of complicated problems will have to be solved.
3. The drawings show how the materials are to be incorporated into the structure, the specifications state the quality and the methods which are to be employed.
4. The aerodynamicsists must have carried out the aerodynamic analysis of the aircraft.
5. Some of the largest meteorites, such as the Sikhote-Alin meteorites of 1947, must have had masses of 70 tons or more when they entered the Earth’s atmosphere, and the meteorites that created some of the large craters, such as the one in Arizona, must have been even bigger.

6. The dark side of Mercury may have been one of the coldest places in the solar system. This situation must have produced some very interesting effects on the geology of the planet.

7. The pilot may have lost the control.

8. However useful it may be, it cannot be employed to advantage unless it can be obtained in adequate quantities and at reasonable price.

9. For other types of signals the carrier level may have to be increased.

10. Although the structures proposed may not have been established with complete certainty, all known facts, physical and chemical, fit beautifully this ingenious interpretation.

**Ex. 18 Translate the following sentences paying attention to the modal verbs.**

1. As to the heat of the reaction it had to be carefully controlled.

2. It has been argued for a long time that programmers should not have to reinvent the wheel every time they write a program.

3. It may not be economic to make the correction while the computer waits.

4. This must have given rise to the molecule changing its configuration.

5. The host cells must have been growing in an appropriate physical and chemical environment.

6. This restriction is severe, but should be welcome to non-mathematical uses.

7. A further possibility that will have to be taken into account in more detailed analysis of the problem is that the ion-pairs in a given solution need not all be of the same type.

8. If practical answers are to be found and the factor of safety is to be put on a firm calculable basis a large number of complicated problems will have to be solved.

**Ex. 19 Translate the following parts of the sentences.**

1. It is assumed that... 2. It is believed that... 3. It should be borne in mind that... 4. It is concluded that... 5. It was determined that... 6. It should be emphasized that...

7. It is to be expected that... 8. It has already been explained that... 9. It was estimated that... 10. It should not be forgotten that... 11. It should be noted that... 12. It was observed that... 13. It should be pointed out that... 14. It is proposed that... 15. It must be realized that... 16. It should be recalled that... 17. It has long been recognized that... 18. It will be recalled that... 19. It is said that... 20. It will be seen that... 21. It must be shown that... 22. It should be stressed that... 23. It had long been supposed that... 24. It may be thought that... 25. It could be understood that...

**Ex. 20 Translate the following sentences.**

1. According to the communication scheme 40 satellites should be placed in polar orbits and 15 satellites in equatorial orbits.

2. The results presented herein should help the designer to obtain a minimum weight structure.

3. Exploration of the planets would include a search for life in any form.

4. A helicopter would be a useful vehicle on Mars since it could take off and land vertically. Furthermore, its velocity would permit a greater geographical area to be covered in a given period of time.

5. The best instruments are easily rendered unfit for use unless they are properly handled.

6. The drawback to this method is that an endurance test would take about 56 hours.

7. Should the applied load be large enough, the resistance of the molecules will be overcome and they will move and take up new positions.

8. It is essential that the engineer have an appreciative understanding of some of the basic principles of business law.

**Ex. 21 Translate the following sentences paying attention to the translation of infinitives.**

1. To land the airplane at night is rather difficult.

2. To determine the accurate position of the plane is the task of the navigator.

3. It was essential to solve the problem of aerodynamic stability.

4. It is important to determine the velocity of a rocket.

5. The aim of the paper is to find basic properties of fluid oscillations.

6. Our problem is to determine the unknown shape of the fuel tank.
The main task of each space flight is to overcome the gravitational field and pass through the atmosphere of the Earth or some other planet.

8. This research airplane is designed to fly at more than 3,600 mph and to reach heights of up to 100 miles.

9. To find the answers to these questions and many others a number of research rockets were sent into space.

10. To ensure a uniform internal temperature inside the generator the engineers designed a special thermal control device.

11. These laboratory experiments are too difficult or costly to perform.

12. Engines of the carrier rocket must have sufficient power to launch the satellite into the Earth's orbit.

13. The first living being to experience weightlessness for a long period of time was the dog Laika.

14. The space vehicles to be discussed in this section can be divided into two broad categories.

15. There are a number of problems still to be concerned.

16. Propellant properties are the main two factors to be considered here.

17. The reciprocating engine probably will be retained for many years to come for use in low-speed airplanes.

18. Physicists consider nuclear energy to be the prime source of heat energy.

19. We may expect this new problem to be qualitatively similar to that discussed above.

20. The astronaut reported spacecraft mean temperature to exceed the designed temperature by 5°C.

21. Suppose the Earth's orbit to be a circle.

22. The ancients thought electricity to be invisible fluid.

23. No other forces are assumed to act on the fuel tank bottom.

24. This condition is assumed to be valid.

25. The angle between these surfaces is assumed to be 75 degrees.

26. The speed of the aircraft at the time of the explosion is estimated to have been about 300 knots.

27. The rocket may be said to work on the reaction principle.

28. At present the rocket engine appears to provide the best means for producing the tremendous thrust forces.

29. Two schemes appear to be particularly attractive for emergency landing.

30. The shape of Venus seems to resemble that of the Earth.

31. It has been necessary for scientists and engineers to develop new methods of tests.

32. It is important for the pilot to know the airplane construction.

33. The noise from the engine was so deafening that it was impossible for the passengers to talk with each other.

34. The necessity may exist for the pilot to reduce the speed of the airplane.

35. The flow field shows the tendency for surface distortion to occur.

Ex. 22 Translate the following sentences.

1. The quantity of water which is used varies with the kind of product to be made.

2. To understand the size of a micron it may be pointed out that a particle of even 50 microns is microscopic.

3. The device is unlikely to operate.

4. Also, the programs to be verified will have to be well-constructed, to make the job easier.

5. A small computer company announced a computer small enough to set on a desktop and powerful enough to support high level language programming.

6. The acid production will be doubled with one-third of the product to be shipped to the works.

7. The primary objective is to develop a framework to support uniform access to a diverse collection of tools, some already existing and some to be developed.

8. An initial 15,000 of the 5.6 mm rifles will be introduced this year with the replacement program to be completed by 1995.

9. There are two approaches to the solution of the problem, one to be used in analytical investigations, the other in simulation.

10. With these many steps to perform, a general-purpose processor can require many cycles to perform the transfer of each word.

11. It would be very nice if one could have a computer do the thinking, have a computer make the decisions and have a computer do the scheduling.

12. The pulse method enables thermodynamic equations to be formulated in a simple manner.

13. We made this reaction run at reduced pressure.

14. High temperatures allowed the reaction to be carried out in two hours.

15. Unfortunately, the solid does not seem to have been analyzed.

16. Hardly any aspect of economic life is likely to be unaffected, or is likely to remain unaffected by automation.
17. Work on the iron stabilized material does not seem to have been reported.

18. This particular compound was not thought to react with mercuric oxide.

19. Preliminary experiments showed that the time required for the specimen to reach thermal equilibrium was quite long.

Ex.23 Translate the following sentences paying attention to the translation of participles.

1. The forces acting on an airplane in flight are lift, weight, drag and thrust.
2. Tests simulating overland flights at various speeds are of great importance.
3. Applying the new methods of investigation mathematicians obtained quite extraordinary results.
4. Combining these two equations we get the following one.
5. The airplane cools itself giving off heat to the surrounding air.
6. When discussing high-speed aerodynamics, we constantly refer to the speed of sound.
7. When describing a turbo-prop, turbo-shaft, or piston engine, the accepted unit for measuring the rate of doing work is horsepower.
8. When applying these two methods, consideration should be given to the physical phenomenon.
9. Planes designed to fly above the speed of sound have strong and thin wings.
10. The structures considered are large and complex.
11. According to the data obtained the development flight of the prototype was successful.
12. Satisfactory results were obtained in every case investigated.
13. Because of the cost involved and the high requirements for reliability, it is unlikely that new intermediate types of space launch vehicles will be developed in the next decade.
14. The results obtained permitted to formulate some general statements.
15. The amount of heat generated depended on the quality of the fuel used.
16. The indicated airspeed of the airplane being controlled constantly, the pilot may determine the plane’s true airspeed.
17. The temperature of an object being raised, the velocity of electrons increased.

18. Soon the aircraft exploded in the air and broke into pieces, two of them falling in flames.
19. The name “electronics” is known to be derived from the word “electron”, the electron itself being the basic unit of negative electricity.
20. Computers and calculating machines can be conveniently subdivided into two classes, analogue and digital, the basic distinction being the way in which numbers are represented inside the machine for purpose of calculations.
21. The tracking of a space vehicle may be accomplished in three different ways, the most obvious being the complete measurement of position and velocity.
22. With the additional coefficient known, the derivation of the equation of time simplifies.
23. With the first phase of the test flight completed, attention now turns to modifications of the aircraft.
24. With submarines being nuclear-powered, anti-submarine defence has become an even more difficult science.
25. The first indication of icing the airplane is a loss of power, with the loss increasing at a rapid rate.

Ex. 24 Translate the following sentences paying attention to the translation of participles.

1. With the water being cooled, the rate of the reaction was low.
2. The other conditions being equal, the acceleration will be the same.
3. The temperature being raised, the kinetic energy is increased.
4. The reaction must have taken place, with the data showing a change in the infrared region.
5. Eq.(22) is simply a rearrangement of Eq.(20), with summation substituted for integration.
6. With the question of representing information settled, the major design question becomes one of logic operations.
7. The insulation being poor, the short circuit was practically inevitable.
8. Carbon dioxide from burning fuels rapidly increasing in the atmosphere, the heat is reflected back to the earth causing the so called greenhouse effect.
9. The X-ray method of examining inner organs being to a certain extent harmful, scientists have developed a new method of ultrasonic examination.
10. The quality of ceramics being steadily improved, a tenfold improvement over the earlier devices was obtained.

11. The telescope system being in orbit, reliable remote control from the ground must be provided.

12. Having noticed the car battery failure, electrolyte solution was immediately added.

13. The actual leak in the system having been spotted, the engine was shut off for repair.

14. The key difficulty is how agriculture could continue to use chemicals to good advantage without health hazards of drinking water nitrate pollution.

15. The power station will operate on a dual pressure steam cycle with the turbine high pressure cylinder designed to accept steam at two pressures.

16. With the computer having become a common business tool, the information can be stored in electronic memories and got out by pressing a button.

Ex.25 Translate the following sentences paying attention to the translation of the gerunds.

1. Solving these complex equations can require a digital computer.

2. Landing on the Moon is considerably different from landing on the Earth because of the lack of atmosphere on the Moon.

3. Launching a man or a crew into space can be accomplished in several ways.

4. The main point of a transformer is raising or lowering voltage.

5. The advantage of the new equipment is functioning under wide change of temperature and pressure.

6. The purpose of the satellite was lifting the airborne instrumentation to a vertical distance of 250 miles from the Earth.

7. The main advantage of the rocket engine is operating independent of its environment medium.

8. The main purpose of an active communication satellite is receiving a signal, amplifying it and returning it to the surface of the Earth.

9. The principal interest of the author of the paper was verifying the shift of resonance frequency with amplitude.

10. The automatic landing system must ensure landing the passenger airplanes at night.

11. The aircraft designer suggested testing this equipment under altitude conditions.

12. The test engineer avoided using this new instrument under high temperatures.

13. Our scientists succeeded in solving the problem of landing the airplanes at night.

14. Our proof will depend on showing that x = 0.

15. These complex problems are associated with maintaining the health of the astronaut.

16. Scientists are trying to develop better ways of lifting space vehicles from the Earth. The problem of escaping from the Earth is essentially a matter of overcoming the gravitational field of the Earth.

17. This article gives a simple method for estimating pressure distribution.

18. There are two principal methods for determining the distances and velocities to the stars.

19. Systems for detecting, inspecting, and, if necessary, attacking enemy satellites and space vehicles can be either ground- or space-based.

20. Peak temperatures occur after heating the test specimen.

21. Upon eliminating w from Eq. (2) we obtain the following results.

22. Man can live on liquid foods for weeks without losing his weight.

23. It is impossible to understand the reasons for all these shapes of the wing without first understanding the reason for sweepback itself.

24. The velocities of stars can be determined by examining the spectrum of the light which comes from them.

25. The principle of a satellite is very simple. A good analogy may be obtained by tying a stone to a piece of string and whirling it round in a circle.

26. Reliability of the construction can be improved by using additional elements.

27. This task is accomplished by launching a spacecraft and the fuel separately into orbit.

28. As on the surface of the Earth, the magnetic field in space can also be used for determining directions of flight.

Ex.26 Translate the following sentences paying attention to the gerunds.

1. The purpose of the method is determining system stability.

2. Balancing is done by adjusting the position of the rods.

3. This is due to the reaction running at a low temperature.

4. This is a result of our not having specified input or output variables for the network.
5. Metals cannot be dissolved without being changed into new substances.
6. Their number depends on the probability of an arriving atom finding another atom on the surface.
7. Combustion may be incomplete owing to insufficient oxygen being present.
8. For radically improving the vehicle he was granted a patent.

Ex. 27 Translate the following sentences paying attention to the function words.

1. Concrete arches reinforced with steel are but rarely used in building construction.
2. Direct stresses only are considered in this chapter.
3. This is the only problem that has not been solved.
4. The quality of our civilization will inevitably be revealed in structures erected for social welfare; it is the architect's job to see that, in so far as he is able, he helps to make them noble and as simple as circumstances permit.
5. A separate consideration of individual elements is in a very real sense artificial, for each element occurs in a building only for some definite purpose and gains both its practical and its aesthetic meaning from its relation to other elements.
6. Upon completion and acceptance of all work required hereunder, the amount due the Contractor under this Contract will be paid upon the presentation of a properly executed and duly certified voucher thereof.
7. Every foundation shall be constructed to sustain and transmit safely all the loading imposed thereupon.
8. It is hoped that the more experienced may find herein some valuable data.
9. The spacecraft experienced both acceleration and deceleration during a flight.
10. Both piston and turbine engines are internal combustion engines.
11. Both of these methods are effective.
12. The potential energy of the body due to the Earth gravitation field is annihilated by the centrifugal force.
13. In our formula q is the acceleration due to gravity.
14. The cause of this airplane accident was due to metal fatigue.
15. The apparent lag in the instrument readings is due to the following fact.
16. The error in calculations is due to numerical integration of the differential equation.
17. After take-off, we should attempt to follow the extended centre-line of the runway.
18. After the spacecraft re-entered the atmosphere, braking parachutes were deployed.
19. Before putting the spacecraft on the re-entry trajectory it is oriented in space at the appropriate time.
20. Before we activate the magneto switch or the starter, we must be absolutely positive that no person is within range of the propeller.
21. All of the necessities of life for the crew must be considered in the design of a spacecraft.
22. Space engines of definite types should operate for periods of up to three years.
23. The pilot-static system is very important for it drives primary flight instruments.
24. The problem of building space stations is drawing the attention of many scientists for to launch a heavy satellite assembled on the Earth presents great difficulties.
25. The scheduled flight was postponed because of deteriorating weather.
26. Weather satellites have paid back all the money that went into their development because they gave advance warnings of the approach of hurricanes.
27. As the satellite moves forward, its path is curved by the pull of gravity.
28. As propellant is expended, the weight of the space vehicle becomes less.
29. Space suits serve as a protective measure against inadvertent loss of cabin pressure.

Ex. 28 Translate paying special attention to the words in bold type.

1. But in a piece of timber, whether this be used for a table or a beam, the radial and still more the tangential shrinkage is of the utmost importance.
2. The question may be raised as to whether the reaction rate was sufficient.
3. This remains the chief aim whether steam traction or electric traction be employed.
4. Once the melting point had been exceeded hydrolysis became more pronounced.
5. Because of its strongly electropositive character uranium is difficult to reduce to metallic form, and once prepared is difficult to keep pure.

6. Whatever type of service pipe be laid, it should be at reasonable depth below the surface of the ground.

7. However, no one has been able as yet to prepare a highly polymeric resin composed of molecules of identical weight.

8. Whereas upon examination the goods were found to be defective, we are now claiming damages.

Ex. 29 Translate the following sentences.

1. Structures of such type, unless very well designed may cause many maintenance troubles.

2. Tower cranes will, if properly used, effect considerable savings in building costs.

3. The site shall be cleared of all offensive animal or vegetable matter which would, if not removed, affect adversely the building or some part thereof.

4. Find the final volume of the brass cube, given that the coefficient of linear expansion of brass is 0.00002 per degree C.

5. Only finished units are transported to the site. This means a reduction in transportation, and shortage on the building site.

6. Any employee, who will appear incompetent, disorderly, or in any other way disqualified for or unfaithful to the work entrusted to him may be discharged.

7. The contractor’s services will include the specifications for and supervising the taking of test borings.

8. These drawings will be furnished to or made available for the inspection of the engineer.

LEXICAL DIFFICULTIES OF TRANSLATION

Ex. 30 Translate the following sentences paying special attention to the words in bold type.

1. The rates and molecular weights are affected by lowering the temperature.

2. No final decision between all these various alternatives is possible at present.

3. On this approach rates of reactions are not measured.

4. This information was not available.

5. It is the radio active method originally developed by Hahn and his co-workers.

6. A different procedure was discovered by Gabriel.

7. Pauling estimated the radii of these volumes and they are reproduced in Table 5.

8. Further evidence concerning this electrode reaction will be presented in the next chapter.

9. Incidentally, it is convenient to introduce the following abbreviations.

10. In this instance the ideal situation is based upon no mixing.

11. Every field of chemistry involves different chemical reactions.

12. All conductors offer fairly low resistance to the flow of electric current.

13. A discussion of the experimental procedures for this type of experimental system has been given elsewhere.

14. Hydrogen was substituted for oxygen.

15. Hydrogen was substituted for oxygen.

16. Under the action of suitable reagents.

Ex. 31 Translate the following sentences and parts of sentences paying special attention to the words in bold type.

1. This paper addresses the various types of approaches which have been used for ...

2. This book is addressed to the applications of time series analysis.

3. The present study addresses the question of what happens to...

4. These investigations did not address the problem ...

5. advanced batteries; advanced concept; advanced energy sources; advanced form of integrated circuits; advanced analytical techniques; advanced controller

6. specific application; in applications where ...; in many applications; in other applications; application program

7. arrive at an estimate of the error in speed of sound

8. primary attraction of injection lasers; attractive property (quality, feature); economically attractive; economically unattractive; attractive design

9. Liquid cooling is also attractive for cooling groups of lower-power devices.

10. The beauty of the method is its speed.

11. The beauty of Forth is that it can always be further modified and updated.
12. Analog dividers are excellent candidates for such applications.

13. Thus, telephone is an obvious candidate to provide the communication/control functions for load management.

14. This challenge is one we cannot afford to ignore.

15. Engineering challenge, reliability challenge

16. New challenges have been constant here over five years.

17. Some challenges immediately responded in kind, while others are taking more time to plan their moves.

18. Of these few, the flat panel is the most challenging.

19. Challenging experimental task

20. Laboratory control plays a critical part.


22. Figure 2 gives the critical dimensions of the laser.

23. Desired operating temperature; desired regions; desired value; desired level of reliability; at any desired angle; desired function. Define the desired parameters

24. Dramatic change; dramatic increase

25. The abrupt change in the lower curve shows the result of a dramatic improvement in technology.

26. As these devices were decreasing in price, their capabilities were increasing dramatically.

27. Early microprocessors; early reports; early satellites; early experiments

28. The computer components are in the early development stage.

29. The control panel of the new washer features three slide switches instead of rotary switches.

30. Following this procedure, one finds, after some manipulation, that...

31. Pressure data as a function of time

32. Figure 2 shows five different profiles generated by this method.

Ex. 32 Translate the following sentences paying attention to stylistically coloured lexical means.

1. The wolf in sheep's clothing has his electronic counterpart – a monolithic 12-bit digital-to-analog converter that has masqueraded for a year as a 10-bit DAC and will soon emerge at its real length, hoping to gobble up the market enjoyed by hybrid and modular converters.

2. The fact is that right now microcomputer programming is a bear.

3. To take full advantage of the microprocessor’s talents, designers usually need long shopping list of additional chips: series and parallel input/output devices, an interrupt controller, a timer, and read-only and random-access memories.

4. Semiconductor designers are up to their old tricks again. Using improved semiconductor processes, they are cooking up new generations of large-scale-integrated devices for computer and memory applications.

5. Constraints such as (3.2-4) are both a burden and a blessing.

6. The following sections deal with spacecraft reliability requirements, and the hardware and software approaches which have been taken to minimize complexity, augment testability and hopefully, make this type of system easy to live with.

7. Locating timing anomalies, glitches, and other similar gremlins on control lines is a measurement that belongs exclusively to logic timing analyzers.

8. High-pass and low-pass filters get rid of those portions of the signal above 80 Hz and below 72 Hz.

9. In the design of the meter’s front end, Continental Specialties Corp. engineers managed to overcome what marketing director Marty Weinstein refers to as “the biggest bugaboo” – dielectric absorption.

10. Lifetime – that bugaboo of the fiber-optics industry – is not established by statistically significant data, but Botez says that “samples have been tested up to 3,000 hours”.

11. The harvest continues in input/output boards compatible with the LSI-11 and LSI-11/2 microcomputers.

Ex. 33 Translate the words with the following prefixes.

anti-: antiaircraft, antiatom, antibomb, antibody, antifreeze, antigravitation, anticer, antimissile, antirocket, antisubmarine

counter-: counter-action, counteraircraft, counter-attack, counterblow, counterfighter, counter-intelligence, countermeasures, countermine, countermissile, counterradar, counterrocket
des-: deatomize, decentralization, decompose, decompression, deconcentration, deicer, demagnetize, demilitarize, demine, demobilize, depressurize
dis-: disadvantage, disappear, disarmament, disconnection, discontinuity, disintegrate, dislocation, disorder, disorientate, disorganization

in-: inactive, incombustible, incontrollable, incompressible, incorrect, independent, ineffective, insensitive, instabilized, invisible, invulnerable

im-: immovable, impatient, imperfection, impersonal, impossible, impermanent, impure
ir: irregular, irrelative, irresistible, irresponsible, irreversibly, irrotationally
non: nonaggressive, nonatomic, nonaxial, noncombat, noncontrolled, nonlinear, nonmilitary, nonnuclear, nonregular, nonstandard, nonstationary, nontraditional, nonturbulent, nonviscous, nonvortex, nonuniform
un: unaccelerated, unarmed, unbalanced, uncontrolled, uncorrected, undamped, unguided, unidentified, unlimited, unmanned, unpowered, unstabilized;
Unacceptable, unaggressive, uncertain, unequal, explosion, unstable, unswept, unsymmetrical

Ex. 34 Translate the words with the following prefixes.

\[\text{inter-}: \text{interaction, interatomic, interchangeability, interconnection, intercontinental, international, interplanetary, intersection, interspar,}\]
\[\text{over-}: \text{overbalancing, overbunk, overboil, overcompensation, over-overexpansion, overflight, overflow, overheat, overland, overstability, oversea, overweight};\]
\[\text{under-}: \text{underarmed, underbalancing, underbelly, undercooled, underdetermine, underground, underpressure, undersea, undersnow, understable, undersurface, underwater, underwing};\]
\[\text{sub-}: \text{subassembly, subbase, subcooled, subcritical, subdivide, subgroup, submarine, subnormal, subpressure, subsonic, substation, substratosphere, subtropical};\]
\[\text{super-}: \text{superacrodynamics, superalloy, superaltitude, superbomb, superbomber, supercooled, superfighter, superfluid, supersonic, supervalocity};\]
\[\text{re-}: \text{reaction, recirculation, recompression, reconstruct, redistribution, reentry, reevaluation, refuel, regeneration, reorganize, replace, reproduce, restart};\]

Ex. 35 In the following sentences find English words (not less than 36) with the international roots; compare them for points of difference with the corresponding Russian words. Translate the sentences.

1. This kind of functional study will also reveal the absolute necessity of carefully segregating the circulation areas in a living house.
2. Since most people cannot read with complete concentration for long periods of time, this space should be so designed that when the reader lifts his eyes from the page he may be able to fix on pleasant instead of disturbing views.

3. In balancing the advantages and disadvantages of various air conditioning systems, the architect must always bear in mind the specific purpose of the room.
4. Climate also will control door sizes, this is a matter of common sense.
5. Sometimes marbles of vivid or dark colours and striking figuration are used to call attention to important doorways.
6. In actual building this purely theoretical differentiation is perhaps less important than it seems.
7. The factors to be considered in elevator service are the elevator car size, the number of cars, and the elevator speed. In a tall building a typical service elevator is operator-controlled and stops at all floors.
8. Another reason why International style architects have advocated the use of non-bearing wall construction is because it permits designs in which expression of the volume of the building is dominant rather than the expression of weight and mass.

Ex. 36 Compare the English words in bold type with the corresponding Russian words for points of difference. Translate the sentences.

1. Columns attribute strength to a building although used in a purely decorative way.
2. As with any choice of an architectural motif, the decision to use bearing-wall construction will bring to the architect both limitations and opportunities.
3. The distance to either side of the stem over which compression may be assumed to act is arbitrarily selected from the results of tests.
4. The lobby is excellently placed both to assist entrance and exit and to furnish an area where the audience may meet the lecturer.
5. To mention only a few of these criteria, a good airport site should not be subject to ground fogs or smoke from industrial areas.
6. In most theatres and concert halls a large foyer should be so placed as not to block or interfere with any of the regular exits or entrances and should be of sufficient size to hold a considerable portion of the audience.
7. The determination of elevator car size and speed for a given building has been fairly well standardized by the elevator manufacturers, whose recommendations are freely given and can be relied on.
8. Primitive tribes who lived in forested areas found wood and not stone their obvious building material.
9. In general it is the peak load that determines the number of elevators.
Ex. 37 Translate the following sentences.

1. The distance to the Moon is 239,000 miles.
2. The distance to the Sun is 90,000,000 miles.
3. The plane flew at the altitude of 30,000 ft.
4. The armoured plate was 1.5 in thick.
5. The rocket speed was as high as 3,500 km per hr.
6. I need the U.S. Patent No. 4,861,487.
7. The wall was 10.3 in thick.
8. The motor is said to operate at a rate of ca. 2,000 r.p.m.
9. The pipe diameter was .75 in.
10. The building site area was 1.6 acres.
11. Any improper fraction can be converted into a mixed fraction.
12. To add the two vulgar fractions you'll have to find first their common denominator.
13. What do you say the numerator of the fraction is...
14. A person can be likened to a fraction in which the numerator is what others value him for, and the denominator is his own estimation of his qualities. The larger the denominator the smaller is the fraction.
15. The decimal fraction 4.15 is read “four and fifteen hundredths” or “four point fifteen”.
16. To what power can the calculator raise numbers?
17. The calculator can do cube roots only.
18. Would you kindly repeat all the indices of the roots so that I could check them up?
19. The calculator can multiply two five-digit numbers.
20. Please divide the number by 15 and tell me what the quotient is equal to.

Ex. 38 Translate the following sentences.

1. The sum is expressed by a mixed fraction.
2. The power of the U.S. A-bomb dropped on Hiroshima was 20 kilotons whereas the power of modern H-bombs is within the megaroton range.
3. In an American text the word “billion” means the 9th power of 10, whereas in an English text it is the 12th power of 10. 12 & 10 in Sci. not.
4. The 12th power of 10 in an American text is trillion and the 9th power of 10 in an English text is milliard.
5. Two 324.75 MW turbo-generators will produce electric power.
6. Gas fans are driven at a constant speed of 1,487 r.p.m. by an AC motor of 9,850 Hp.
7. Gas will pass at a pressure of 275 psi.
8. The graphite core will be penetrated by over 4,000 vertical holes of approximately 4 ins in diameter.
9. For every 100 lbs of semolina some 26 lbs of water ranging from 70 degrees F to 140 degrees F are used.

НАИБОЛЕЕ УПОТРЕБИТЕЛЬНЫЕ ОБОРОТЫ И ВЫРАЖЕНИЯ ОПИСАНИЙ ИЗОБРЕТЕНИЙ К ПАТЕНТАМ АНГЛОЯЗЫЧНЫХ СТРАН
(США, ВЕЛИКОБРИТАНИЯ, КАНАДА, АВСТРАЛИЯ, ИНДИЯ)

I. Библиографическая часть
(Title of the Invention)

Appl. No. (CШA) Номер заявки
Application number (Австра.) Номер заявки
Assignee Патентовладелец
Complete Specification Дата публикации
Published (Англ., Австра.) полного описания
Filed (CШA) Дата подачи заявки
Patented ..., 19... Дата выдачи патента
Field of Search (CШA) Область поиска (прототипов по национальной классификации изобретений)

We, General Engineering Co. Limited, a British company
Of Station, Works, Bury Road, Radcliffe, Manchester, do
Hereby declare the invention
For which we pray that a patent
may be granted to us, and the
method by which it is to be
performed, to be particularly
II. Область техники, к которой относится изобретение и обзор состояния техники
(Background of the Invention; Field of the Invention; Description of the Prior Art)

This invention relates to a process...
Настоящее изобретение относится к способу...

The present invention relates to the production of ... and in particular to the production of...
Настоящее изобретение относится к производству ..., и, в частности, к производству...

The invention relates to the manufacture of ... and especially to the production of...
Настоящее изобретение относится к изготовлению ..., и, в частности, к производству...

This invention is concerned with the manufacture of...
Настоящее изобретение относится к изготовлению...

Background of the Invention
Предпосылки к созданию изобретения

This invention relates in general to...
Настоящее изобретение, в основном, относится к...

The present invention generally relates to ... and more particularly...
Настоящее изобретение, в основном, относится к ..., а более конкретно к...

The present invention relates to ... and its object is, generally, to provide...
Настоящее изобретение относится к ..., и его целью является создание...

The invention relates to ...
Настоящее изобретение относится к...

More particularly, the
Более конкретно данное

invention relates to ...
More specifically, the invention has to do with novel and highly effective...

This invention is directed to a method and means for...

This invention is directed to a novel article ...

Thus the present invention is especially well suited to ...

It is common knowledge that ...

It has also been discovered that ...

It has been known that ... can be obtained by ...

It is known to ...

Solutions thus far proposed to overcome the foregoing problems have involved ...

III. Цели изобретения
Objects/ General purpose / Targets

Accordingly, it is the primary object of the present invention to provide ...

Broadly, it is an object of

В соответствии с изложенным основной целью настоящего изобретения является создание...

Общей целью изобретения
the invention ... является ...

In general, it is an object of the invention ...

Obъектив целью изобретения является ...

Objects of the present invention are to overcome the above disadvantages and to provide ...

Настоящее изобретение направлено на устранение указанных недостатков с помощью ...

The principal object of this invention is to provide an improved apparatus of this character ...

Основной целью настоящего изобретения является создание усовершенствованного устройства указанного типа ...

Other objects of the invention are to ...

Другие цели изобретения заключаются в ...

An object of the invention is to ...

Цель изобретения ...

Another object of the present invention is to provide ...

Другая цель настоящего изобретения заключается в создании ...

Yet another important object of the present invention is to provide ...

Еще одной важной целью настоящего изобретения является создание ...

A further object of the invention is to ...

Следующая цель изобретения ...

V. Краткая формулировка сущности изобретения
Summary of the Invention

Summary of the Invention

Краткое изложение сущности изобретения

These objects are accomplished by ...

Указанные цели достигаются ...

These and other objects

Указанные и другие цели достигаются in a device ...

are attained in a device ...

With this object in view, the present invention comprises an improvement in the apparatus described in my prior patent ...

Still another important feature of the present invention is to provide ...

Broadly speaking, the invention is based upon the conception that ...

According to the invention ...

According to the invention the apparatus for ..., is characterized in that ...

В соответствии с указанным изобретение относится к усовершенствованию устройства, описанного в существующем патенте данного заявителя ...

Еще один важный признак настоящего изобретения связан с созданием ...

В целом настоящее изобретение основано на том, что ...

В соответствии с настоящим изобретением ...

В соответствии с изобретением устройство для ... отличается тем, что ...

V. Заключительная фраза вводной части описания
Final phrase of the introductory part of the invention

Other objects, advantages and features of the invention will become evident from the following specification and accompanying drawings which are merely exemplary ...

The above-mentioned objects and other objects and advantages of the present invention

Другие цели, преимущества и признаки настоящего изобретения очевидны из следующего ниже описания и прилагаемых рисунков, которые носят чисто иллюстративный характер ...

Указанные и другие цели и преимущества настоящего изобретения проил-
invention are illustrated in the accompanying drawing, wherein: ...

These and other objects of this invention will become apparent from the reading of the attached specification ...

... with due reference to ... the accompanying drawings ...

The present invention provides an improved ...

The present invention contemplates means ...

The nature of the invention will be clear from the following description.

The following statement is a full description of this invention including the best method of performing it known to us:

Description of the Drawings

The invention will now be explained in greater detail with reference to embodiments thereof which are represented in the accompanying drawings, wherein: ...

The above-mentioned and other features and objects of this invention and the manner of attaining them will become more apparent and the invention itself will be best understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein: ...

In the accompanying drawings, with the aid of which I will describe my invention: ...

In describing my invention, reference will be made to the accompanying drawings, in which corresponding parts are identified by corresponding reference characters and in which: ...

Further objects and advantages of the present invention will become apparent to those skilled in the art upon a further reading of this disclosure, particularly when viewed in the light of the drawing, in which: ...

На прилагаемых рисунках, с помощью которых ведется описание изобретения...

Описание настоящего изобретения ведется со ссылками на прилагаемые рисунки, на которых одинаковые детали обозначены одинакими надписями...

Другие цели и преимущества настоящего изобретения очевидны для специалистов в данной области техники из следующего ниже описания изобретения и прилагаемых рисунков, со ссылками на которые оно ведется и на которых: ...
VI. Detailed Description of the Invention

Accordingly the operation of the embodiment will now be described with reference to Fig. ...

The illustrated embodiment of the invention (Fig...) comprises ...

The individual elements of the construction are described in greater detail in our patent No. ...

Specifically, with reference to Fig. ...

Referring to Fig. ...

Refraining now specifically to the drawings, the numeral ... generally designates ...

Refer now to Fig. ...

It will be readily understood by those skilled in the art...

It will be appreciated that...

It will be apparent that...

It is understood, in all cases that...

In the embodiment disclosed in Fig. ...

In the arrangement of Fig. ...

Alternatively, the device may comprise ...

Thus the present invention has a number of economic advantages over prior practice

As disclosed in the prior patent specification ...

VII. Broadening Paragraph(s)

While particular embodiments of the invention have been shown and described, various modifications thereof will be apparent to those skilled in the art and therefore it is not intended that the invention be limited to the disclosed embodiments or to the details thereof and the departures may be made therefrom within the spirit and scope of the invention.

Всех случаях ...

В примере осуществления изобретения, проиллюстрированном на рис. ...

В конструкции, показанной на рис. ...

В соответствии с другим вариантом осуществления изобретения устройство может содержать ...

Таким образом, настоящее изобретение обеспечивает многочисленные экономические преимущества по сравнению с известными решениями

Согласно ранее опубликованному описанию ...

Выше приведены конкретные примеры осуществления изобретения, допускающие различные изменения и дополнения, которые очевидны специалистам в данной области техники. Поэтому изобретение не ограничивается этими описанными примерами или отдельными элементами, и в него могут быть внесены
as defined in the claims

This invention may be variously otherwise embodied within the scope of the appended claims

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred embodiment, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the claims below

While the invention has been described herein in terms of the preferred embodiments, numerous variations may be made in the apparatus illustrated in the drawings and herein described without departing from the invention as set forth in the appended claims

... without affecting ...
(avoiding, deviating from, exceeding, falling outside, going outside, widening) the scope of the invention ...

Various modifications may be made in the invention without departing from the spirit of the following claims

... without altering ...
(constituting a departure from, deviating from) the spirit of the invention

VIII. Формула изобретения
Claims

Having thus described my invention I claim:

What we claim is:

What I claim is:

The claims defining the invention are as follows:

In combination with ...

Apparatus ... substantially as heretofore described
as hereinbefore described with reference to, and as shown in the accompanying drawings

Ex.39 Translate the title part of the description of the invention.

(12) UK Patent Application (19)GB (11) 2,156,980
(43) Application published 16 Oct. 1985
(21) Application No.: 8506965
(22) Date of filing: 18 Mar. 1985
(30) Priority Date (31) 343,32,79 (32) 7 Apr. 1984
(33) DE
(71) Applicant: Peter Zimmer, Rondsdorf Strasse, 77, 4000 Dusseldorf, 1, FRG
(72) Inventor: Peter Zimmer
(74) Agent and/or Address for Service AA Thornton & Co.
Northumberland House, 303/300, High Holborn, London WC2A 1AY
(51) Int. Cl.: AGIB 5/00 GOIN 1/22
(52) Domestic Classification G IB CX B8V GOOAC
(56) Documents Cited None (58) Field of Search GIB
(54) Breath-test appliance with test body dispenser.
(57) An appliance for checking the alcohol content for a person's breath using a test body into which the breath is blown and which can be connected to a test device, enables people in any walk of life to be able to check their own alcohol content on any occasion.
The appliance has a housing which contains an automatic dispenser which can be actuated when money is inserted and which delivers test bodies individually.

SPECIFICATION

The invention relates to an appliance for checking the alcohol content of a person's breath ...
The alcohol content of the breath has hereto usually been checked only by police officers with the help of expensive electronic devices.

The object of the present invention was therefore to make it possible for the individual motor vehicle driver and if appropriate other persons also of course, to check the alcohol content at any particular time. For this purpose, the invention proposes an appliance the housing of which contains the test device and an automatic dispenser which can be actuated when money is inserted and which delivers test bodies individually.

Ex.40 Translate the following sentences containing special expressions relating to the field, objects and the general purpose of the invention.

1. The invention relates to semi-conductive devices, for example, transistors or crystal diodes.
2. This invention has to do with improvements relating to the cooling of rectifiers, transistors and like semi-conductor devices, but especially germanium and silicon rectifiers.
3. The leading object of the present invention is to provide an improved device of the type described.
4. The object of the present invention is to provide cooling means for the brake shoes and linings thereof.
5. It is the general object of the invention to provide a method of making an electroluminescent phosphor.
6. An object of the invention is to provide a setscrew which is simple and inexpensive to manufacture.
7. According to the present invention a two-speed mechanical drive mechanism of the kind referred to comprises a threaded shaft, a worm screwed upon said shaft, and limiting stops.
8. In carrying out the objects of the present invention, an air conditioner is provided comprising a refrigerator system with an evaporator, a compressor and a condenser.
9. The invention will now be described more fully by way of example, with reference to one embodiment thereof, which is illustrated in the accompanying diagrammatic drawing in which the figure shows a longitudinal section of a transistor.
10. To illustrate the above statements, reference will be made to the attached drawings, Fig. 1 of which shows a cross-sectional elevation of the device.
11. The invention will now be particularly described with reference to the accompanying drawings which show a plan of a chassis of a motor vehicle constructed according to this invention.
L.J. Costerstraat 16
NL-5916 PS Venlo (NL)
(72) Inventor: Backus, Petrus Antonius Marie
86 Laaghuissingel
NL-5913 EV Venlo (NL)

(54) Apparatus for peeling bulbous plants.

(57) An apparatus for peeling bulbous plants, such as onions, the apparatus consisting substantially of cutting means (36) for removing the tail and head of the bulb, incision means (5) for making an incision into at least the outer skin of the bulb, friction means (12, 13, 13') for removing the incised skin and a conveyor for carrying the bulbs series-wise along these means, wherein said incision means (5) are formed by a number of incision discs driven for rotation disposed alongside one another, the common drive shaft of which extends parallel, or virtually parallel, along a side of the conveyor, and that one or more filler bodies (7) are arranged between the discs, whereby the friction means consist of at least one brush (13) fitted or air jet 13' along the other side of the conveyor, in order to considerably enlarge the capacity and reduce in proportion to the side of the apparatus itself.

Ex. 41 Translate the following title page of the invention.

(54) METHOD AND APPARATUS FOR TRIMMING ONIONS OR LIKE PRODUCE

(75) Inventor: William J. Lawson, Milton, Del.
(73) Assignee: Magnuson Engineers, Inc., San Jose, Calif.
(21) Appl. No.: 886,470
(22) Filed: Mar. 14, 1978
(51) Int. Cl. .................. A23N 15/08
(52) U.S. Cl. .................. 99/636; 99/643
198/384
(58) Field of Search ........ 99/546, 635, 636, 643;
83/411 R; 426/481; 482; 198/382-384

(57) ABSTRACT

Onions are lifted and transported individually and are transferred in successions onto an orientation conveyor where the onions are made to roll on a path of least resistance until their stem axes are transverse to the line of movement of the conveyor. Following orientation, the onions are gripped individually and carried into engagement with a pair of laterally spaced trimming blades which cleanly snap off the protrusions at the ends of each onion along the stem axis to prepare the onions for further processing. During their movement toward the trimming blades by the gripping and carrying means, the onions engage blade connecting camming means which automatically adjusts the lateral spacing of the trimming blades responsive to variations in onion size. Following the trimming operation, the onions are released automatically into a collector means.

Ex. 42 Translate the following title page of the description of the invention.

(12) EUROPEAN PATENT APPLICATION

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(22) Date of filing: 15.01.88
(51) Int. Cl.: A 23 N 15/08
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(71) Applicant: Backus Sormac B.V.

(54) Viscometer

(72) Inventor: Toshihiko Ohno, Tokyo, Japan
(73) Assignee: Rion Kabushiki Kaisha, Tokyo, Japan
(22) Filed: April 24, 1970
(21) Appl. No. 31, 548
(52) U.S. Cl. GOIn 11/16
(58) Field of Search 73/59
(56) References Cited
United States Patents
2, 937, 457 3/1960 Pye et al. 73/59
2, 354, 299 7/1954 Bays 73/59
Primary Examiner Louis R. Prince
Assistant Examiner Joseph W. Roskos
Attorney Wenderoth, Lind & Ponack
Abstract

A rotor driven by a shaft rotated at a fixed speed is subjected to the drag of a liquid the viscosity of which is to be measured to apply an axial thrust to the shaft. The shaft is axially displaced against the action of a helical spring and continues to be rotated at a position where the thrust balances the resilience of the spring. A pointer responds to the displacement of the shaft through a cylindrical rack and a pinion to indicate the viscosity of the liquid.

Ex.44 Translate the following advertisement material.

ROTOPEL – ROTOMIX

Horizontal Processors

COT BODYPLAST S.A., leaders in manufacture of HORIZONTAL PROCESSORS, in which they were pioneers, are constantly evolving new TANNERY METHODS in horizontal processing.

More than 1,000 units have been supplied since its creation in 1975, demonstrating the perfect quality and endorsement of our products.

ROTOPEL and ROTOMIX were designed and manufactured from the investigations and specialized studies of COTS BODYPLAST S.A. together with the most prestigious industrial groups in the tannery field, resulting in the correct machines for each section of leather, i.e. BEAMHOUSE, TANNING and DYEING.

ROTOPEL processor, equipped with inner shelves, provides a constant and gentle longitudinal mechanical action with no risk of felting problems. Suitable for any type of leather with wool or fur.

ROTOPEL processor, equipped with straight shelves. Vigorous and intense mechanical action is obtained with better yield.

The ROTOMIX is suitable for all kinds of hides and skins without wool i.e. BOVINE, GOAT, SHEEP... For clothing, upholstery, footwear and fancy goods.

ROTOPEL and ROTOMIX horizontal processors are made entirely of Fibre-Glass and Polyester resins, with the especial ECOMAT compound, exclusive to COTS BODYPLAST S.A. This compound is extremely resistant to physical and chemical assault, abrasion, temperature, etc. COTS BODYPLAST processors fulfill LLOYD'S and DET NORSKE VERITAS international standards.

Fibre-Glass and polyester resins are considered as important improvement in opposition to wood, as there is no absorption.

Its meticulous manufacturing process results in a smooth and slippery inner surface, completely avoiding GRAIN DEFECTS. Plus easier cleaning with no colour contamination in subsequent dyeing.

ROTOPEL and ROTOMIX processors are compact units supported on metallic structures painted with special anti-corrosion EPOXI paint.

A special COTS BODYPLAST system is used for LOADING and UNLOADING skins and products.

The skins are loaded whilst drums are rotating in the working direction, and by reversing the drums they are gradually discharged. There is an important reduction in time and labour in each process. Loading and unloading aperture is properly positioned, so as to facilitate faster and easier sampling (pH, T, Quality Controls).

- ROTOPEL and ROTOMIX units are suitable for all, BEAMHOUSE processes i.e.: soaking, liming, PICKLING, TANNING and DYEING.
- The normal working level is 50 per cent of its total capacity (axle level) however when required, the working volume can be increased up to 70 per cent.
- Reduction in times of processing, due to correct and constant mechanical action, whilst utilizing shorter float ratios.
- Much more chemical penetration and float exhaustion due to the perfect contact between skins and float.
- Higher quality with important consumption reductions:
  - * Water: 50-60 per cent
  - * Chemical: 30 per cent
  - * Power: 40 per cent
1. **Interpreter**
The personal talking interpreter that translates up to 10,500 individual words and 65,000 phrases across English, German, Spanish and Italian.

2. **Sanyo TRS 6100**
Small lightweight microcassette tape recorder. Complete with external "tie-pin" microphone, earphones, microcassette and wallet.

3. **Disc Player AIWH DX P50**
16 track programmable CD player with remote control unit. LCD display with track and playing time. Operates with batteries or from mains.

4. **SONY DZ 5**
16 track programmable CD player with digital graphic equalizer surround sound bass boost and dynamic low volume sound. 4 different play modes. LCD track time and signal processor windows. Operated from mains or rechargeable battery pack.

5. **Camcorder JVC GR AXIO**
Compact VHS-C video camera with quick response auto macro. 8x power zoom. One touch shooting. Includes carrying case.

6. **Computer PSION SERIES 3**
World's most powerful pocket-sized computer with up to 4 Megabytes of memory. Built-in word-processor for document management, database referral, automatic dialing, etc. Can be connected to PCs.

7. **CD Portables. TEAC STEREO RADIO CASSETTE WITH CD PLAYER**
Features CD player with 32 programme memory, AM/FM stereo radio, twin cassette with high speed dubbing and continuous play, super bass control for enriching bass sound and high power speakers.

8. **SANYO STEREO RADIO TWIN CASSETTE WITH CD PLAYER**
Features a 10 key remote control with motor driven volume control AM/FM radio twin cassette deck with auto reverse and continuous play, CD

9. **Masuda 48 cm Cordless Remote Colour TV**
Has a 3-year warranty. Features direct access cordless remote control, VHF/UHF electronic tuning, on-screen display for volume, channel and timer, audio/video input connections and high focus picture tube.

10. **SONY 51 cm REMOTE CONTROL COLOUR TV**
Features a large 51 cm screen with flat black Trinitron picture tube, PAL and NTSC inputs, and infrared remote control.

11. **Roland EPS**
A new concept in electronic pianos. It is perfect for beginners to advanced players as it has a 1 note keyboard with the enhanced playability and expressiveness of higher-class pianos, in a portable package. Headphones valued 33 dollars are provided.

12. **SAMSUNG 68 cm REMOTE CONTROL STEREO COLOUR TV WITH TELETEXT**
Features the latest in styling and design with flat square, powerful stereo speakers, teletext, full function remote control and on-screen display. Stand optional extra.

13. **SONY 8 mm CAMCORDER**
World's smallest camcorder features 6x power zoom plus macro, variable speed digital shutter, 7 Lux minimum illumination, date and time insert, new instant record mechanism plus line input/output jacks.

14. **PANASONIC MICROWAVE OVEN**
Features simple dial operation, 6 variable power levels, 31 cm turntable, 650 Watts of microwave power and 23 litre capacity.

**Ex. 46 Translate the following text.**

**A HYPersonic BLACK PROGRAM?**

"It sounds as though the sky is ripping open." Two independent sources have now used this vivid expression to describe the take-off noise
of a new aircraft that has been tested from the US Air Force’s secret base at Groom Lake, Nevada. The existence of a hypersonic strategic reconnaissance aircraft has been rumoured for years and was the subject of a report in The New York Times early last year. If nothing else, it provides a starting point for some interesting technical speculation.

The vehicle is reported to cruise at Mach 6, well inside the envelope of a subsonic-combustion ramjet. A ramjet needs an "accelerator" to get it moving. A turbojet would be idle during most of the flight, so a lighter – if less fuel-efficient – accelerator might be a better choice. One possibility would be to build a ducted-rocket cycle into the engine: a fuel-rich liquid-rocket exhaust is injected into the ramjet duct, pumping air through it even at rest, and a second combustion then takes place, using atmospheric oxygen. A ducted-rocket cycle, with its high jet velocity, would of course also account for the vehicle’s "bad neighbour" noise characteristics.

One would probably want such an aircraft to carry out its mission without recourse to air-to-air refuelling. To accomplish in-flight refuelling, the aircraft would have to slow down to subsonic speed and the subsequent re-acceleration to hypersonic cruise speed would use up much of the fuel taken on board during the refuelling operation. Global range without refuelling is more attainable than one might think. Lockheed’s D-21 drone, produced more than 20 years ago, could haul a reconnaissance payload at Mach 3.8 and 100,000ft for a stupendous 24,000km. The fuel was straight JP-4 jet fuel (a Mach 6 aircraft would probably use higher-energy methane) and the engines were not even built for the D-21 but were removed from surplus Boeing Bomarc missiles.

Reports differ on whether the new vehicle is piloted or not. An unmanned aircraft would be less costly and could equal the effectiveness of a manned vehicle in many circumstances. At Mach 6, a crew would have little time to adjust the sensors or respond to targets of opportunity, so automation would be critical to the mission in any case.

The main sensor would most probably be a synthetic-aperture radar capable of providing near-photographic resolution, particularly at long distances, and, unlike a camera, plan-view imagery of stand-off targets at night or in bad weather.

With each report, the critical question is less whether this radical aircraft actually exists than when its existence will be officially acknowledged; but that is not likely to happen for some time. It is quite fascinating to note that, at a time when debate rages about the genuine utility of subsonic stealth aircraft, the USA is also pursuing a totally different line of development. A slow stealth aircraft is a dead duck once it is detected, but a Mach 6 vehicle can be as un stealthy as it likes because nobody is going to be able to catch it.