MOVING ASSEMBLY BASED ON PROTEINS

C. Prudhvi

PRINCIPLE:

This principle is based on the functioning of MOTOR PROTEIN KINASE in biology and it is related to transport using electromagnetism.

MOTOR PROTEIN KINASE:

They attach to organelles and walk them along the microtubules while the microtubules are stationary.

ELECTROMAGNETISM:

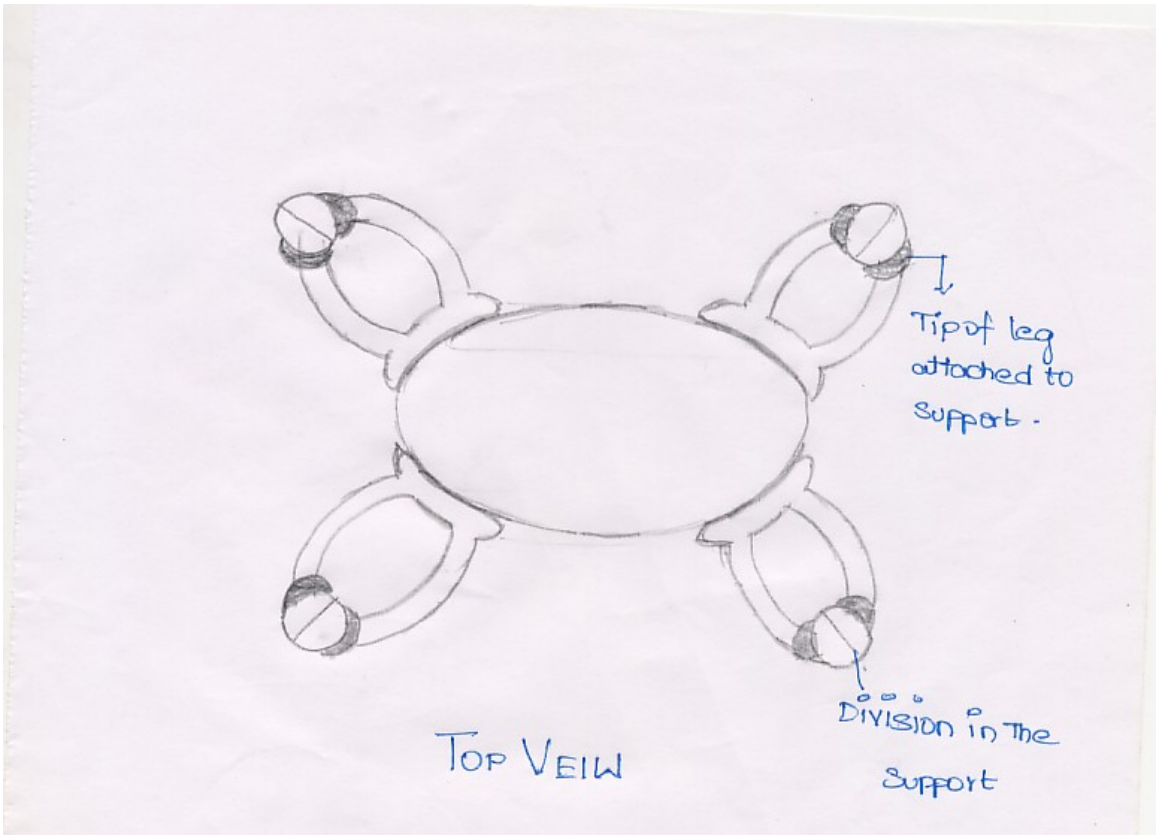
The process of generating magnetic field around FERRO magnetic substances using electricity is called Electromagnetism.

WORKING:

The aim of the system is to transport goods through certain height or transfer them from one place to other.

DETAILS:

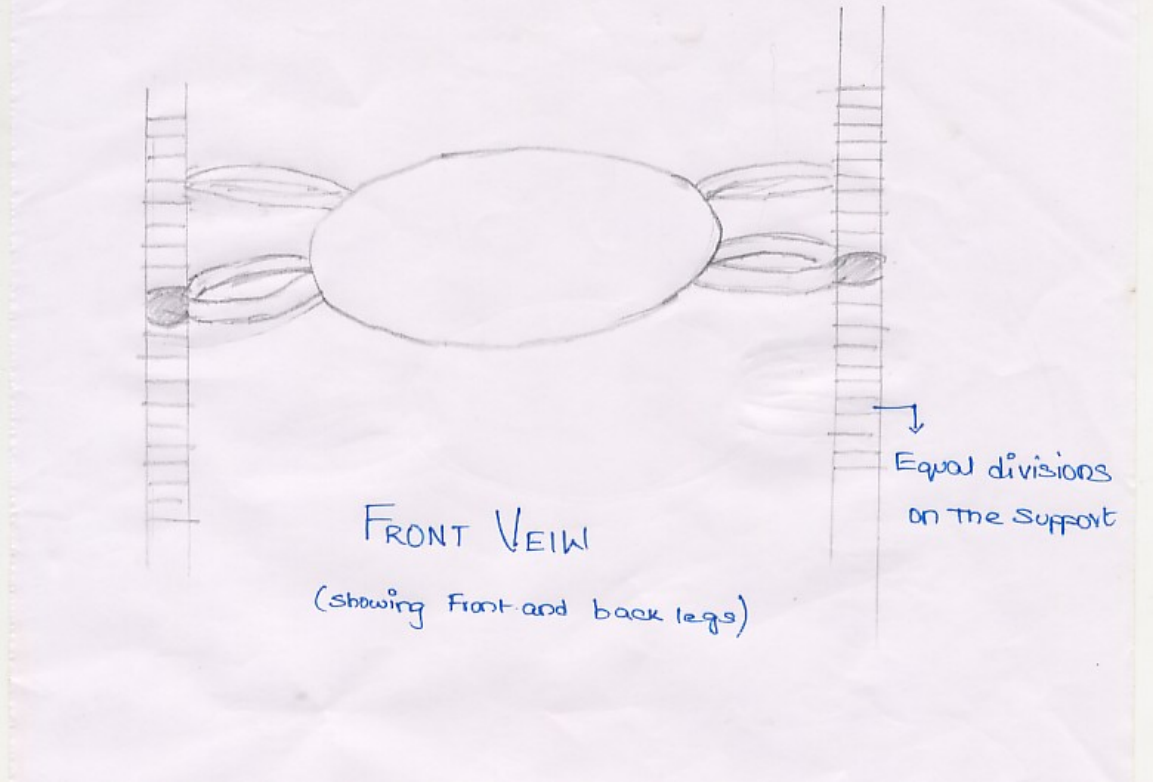
The system consists of a four legged structure which binds to four supports(poles).these poles are equally divided in to very small divisions such that these legs must able to bind with a division effectively.



PROCEDURE:

Now each division in the support is connected in such a way that only one division is magnetized at a time and so on (this can be done using principles in electro magnetism).the tip of the leg must also be magnetized using electricity such that the division and the tip must behave as unlike poles and are attracted towards each other.

Here, the tip of the leg must always be magnetized but the divisions must be regulated. Then the divisions must be magnetized in a symmetric way such that all the legs are attached to the divisions at the same level. Now the next division is magnetized and the free leg must be moved up to get attached to the division, which is just above the previously magnetized division. After the second one is attached, the first one is demagnetized and the third is magnetized so that it attracts the first free end of the leg, then the process continues.



ADVANTAGES:

1) By this way we can reduce the loss of energy in the form of friction and pulley work and so.

2) By this method we can regulate speed of movement depending on the requirement.

3) In this method the repulsion between the two legs can be made use full so that we can reduce the power loss.

4) As we are not magnetizing the complete support the power loss is still reduced.

PRECAUTIONS:

The poles must be properly insulated so that one does mot attract the other leg not corresponding to it.

Using the same principle, we can make use of the function of Dynein molecules for the transportation of goods in horizontal direction.