

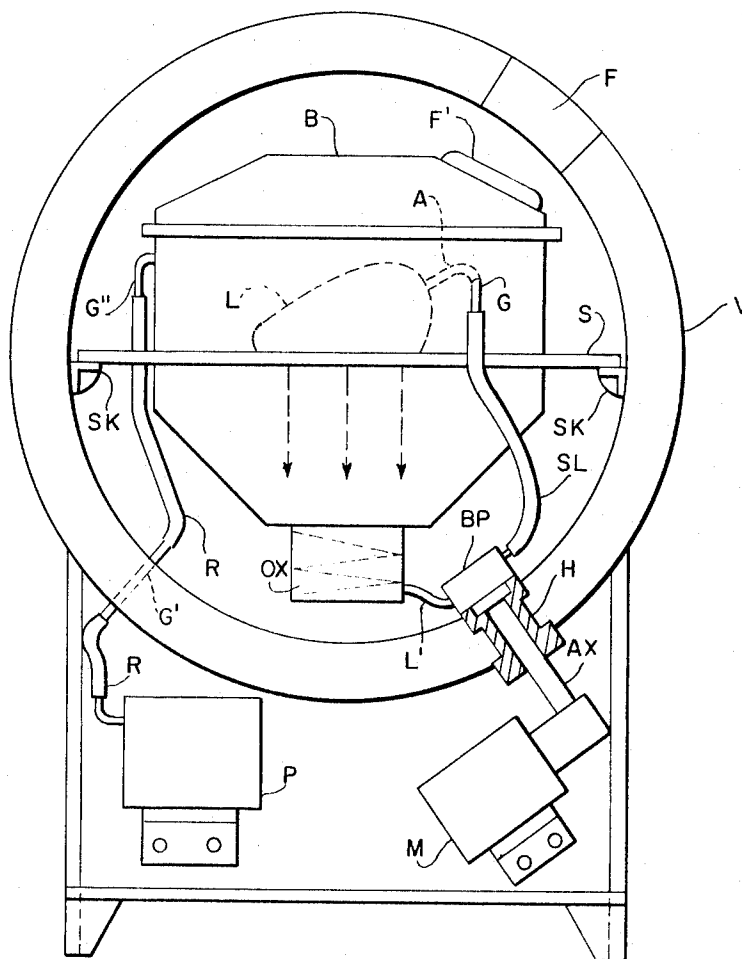
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STORAGE DEVICE FOR ORGAN TRANSPLANTS

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**STORAGE DEVICE FOR ORGAN TRANSPLANTS**

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3 Claims 10

**ABSTRACT OF THE DISCLOSURE**

A pressure chamber for storing organic transplants and supplying them with oxygenated blood is provided with an oxygenator and a blood pump in the chamber. The pump is driven from a motor outside the chamber so as to avoid pressure influence on the blood, a pressure-tight transmission connecting the motor with the pump through the chamber wall.

**BACKGROUND OF THE INVENTION**

The invention relates to a device for storage and blood perfusion of an organic transplant.

This type of storage requires a continuous supply of oxygenated blood to the transplant in order to keep it in fresh condition. An oxygenator is provided in the chamber and a blood pump is also necessary to collect blood from the oxygenator and supply it to the transplant, which may be a heart or a liver or some other organ.

If, in a chamber of the type referred to, the blood pump is placed outside the chamber, lead-through conduits for the perfusion blood are required from the interior of the chamber to the pump and from the latter back into the chamber. This requires the blood to overcome the pressure differential between the outside and the interior of the chamber and a corresponding amount of energy must be supplied by the pump. Also, there is an increased danger of haemolysis of the blood.

**SUMMARY OF THE INVENTION**

It is an object of the invention to provide a storage device which obviates the disadvantage referred to. The characteristic feature of the invention consists in that the blood pump is located in the chamber, whereas the motor is placed outside it, a transmission being provided for connecting the motor with the pump through the wall of the chamber in an air-tight manner.

**THE DRAWING**

The attached drawing shows an embodiment of the invention.

**DESCRIPTION OF EMBODIMENT**

The storage device comprises a chamber having a cylindrical wall V with a window F provided therein for observation of the interior of the chamber. Inserted in the chamber is a container B which is supported by a plate S. The plate S rests on guides SK, on which container B can be pushed into or pulled out of the chamber. The container has a lid, in which a window F' is provided in a position corresponding to that of window F. The organic transplant is indicated by L and the artery A thereof is connected via a lead-through at G to a tube SL, which connects the same with the outlet of a blood pump BP. The blood issuing from transplant L flows into an oxygenator OX, from which a conduit L' leads to the inlet of blood pump BP. The axle AX of blood

pump BP is brought out through the chamber wall via a bushing H to connect with a motor M. Also, placed outside the chamber is a pump P for supplying oxygen or air to the chamber under increased pressure via conduits R and lead-throughs G' and G''.

Owing to the fact that the pressure gas is supplied via lead-through G'' to container B there is a direct supply of fresh air or oxygen to the transplant.

The arrangement of blood pump BP within the chamber removes the drawbacks referred to above, which are present if the blood is to be brought out of the chamber and back after passage through the pump. There is less energy required to be supplied by the pump and the danger of haemolysis is substantially reduced. This advantage is particularly noticeable in connection with a blood pump of a type known per se comprising elastic tubing which is compressed by rotating rollers moving over the tubing for feeding the blood.

The lead-through H referred to above may be of any known type which is capable of withstanding a pressure of about 5 to 10 at.

The pump P can be replaced by some other type of gas supply, such as a container for gas under increased pressure.

We claim:

1. A device for the storage and blood perfusion of organic transplants comprising:

a chamber capable of holding gas under increased pressure,

means for supporting an organ in said chamber, a pump device in said chamber for maintaining a stream of blood,

first conduit means for conveying said stream of blood from said pump to said organ,

an oxygenator in said chamber positioned to receive blood from said organ,

second conduit means for conveying blood from said oxygenator to said pump,

a motor outside of said chamber for driving said pump, and

a transmission member connecting said motor with said pump device through the wall of said chamber in an air-tight manner.

2. A device as claimed in claim 1, in which said pump device comprises a flexible tube and rollers movable along said tube and compressing the same.

3. A device as claimed in claim 1, which includes a support for holding a transplant slidable in said chamber and supporting said oxygenator.

**References Cited**

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