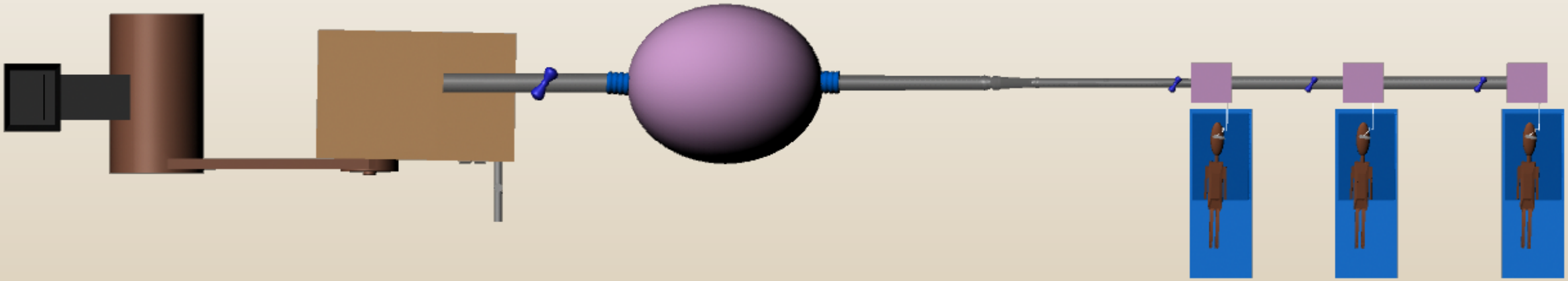
OXYGEN PRODUCTION WITH OR WITH OUT ELECTRICITY

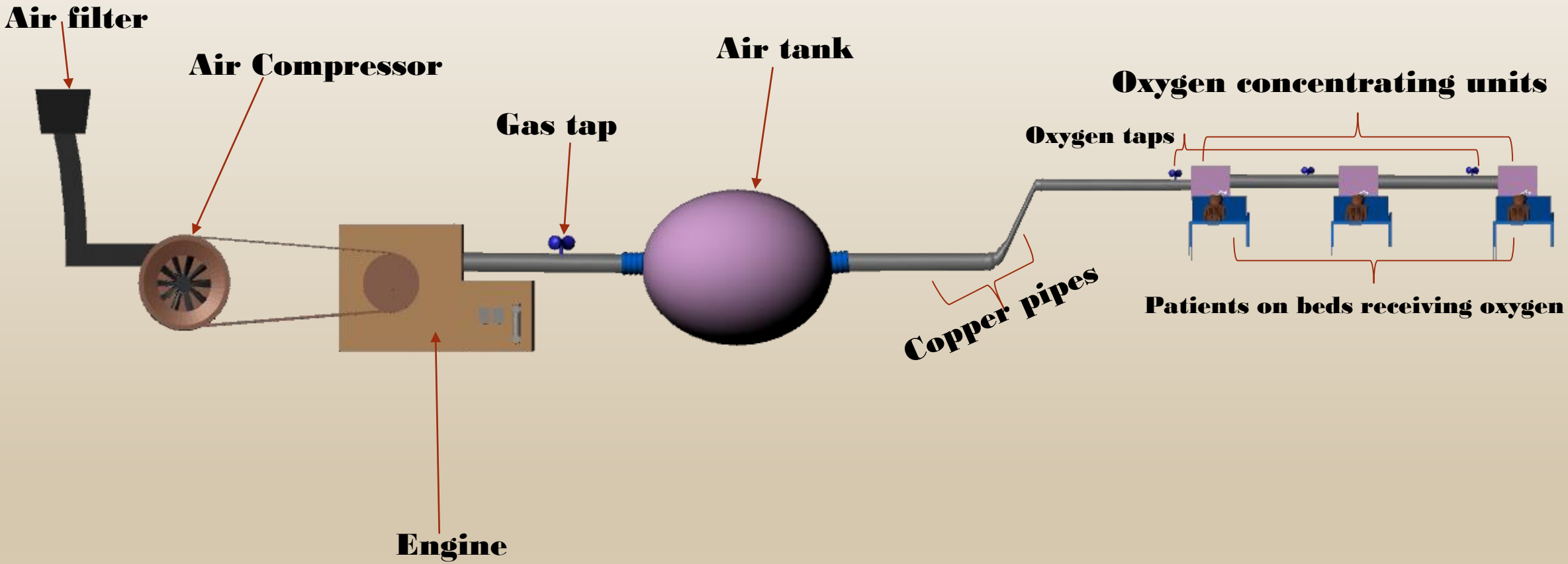
As a biomedical Engineering Technician who moves around the country I have realized that oxygen is one of the biggest challenges in this country with most hospitals and Health Centers depending on oxygen Cylinders or sometimes non.

The big challenge with the use of cylinders is that we have the oxygen manufacturing plants only in Kampala and therefore it becomes expensive for hospitals and health centers which are far from Kampala to acquire the gas .Take an example of a hospital in Kisoro travelling all the way from there just to purchase oxygen in Kampala of which this gas will not last for more than a week. Is it cost effective ? In addition, most people who find it difficult to buy the cylinders from Kampala would end up purchasing the oxygen concentrators but power is also another challenge . As a creative and an innovative Biomedical Engineering Technician I have been looking for the ways to overcome this problem that is why have come up with my oxygen concentrating machine which can give out oxygen even in areas with no electricity



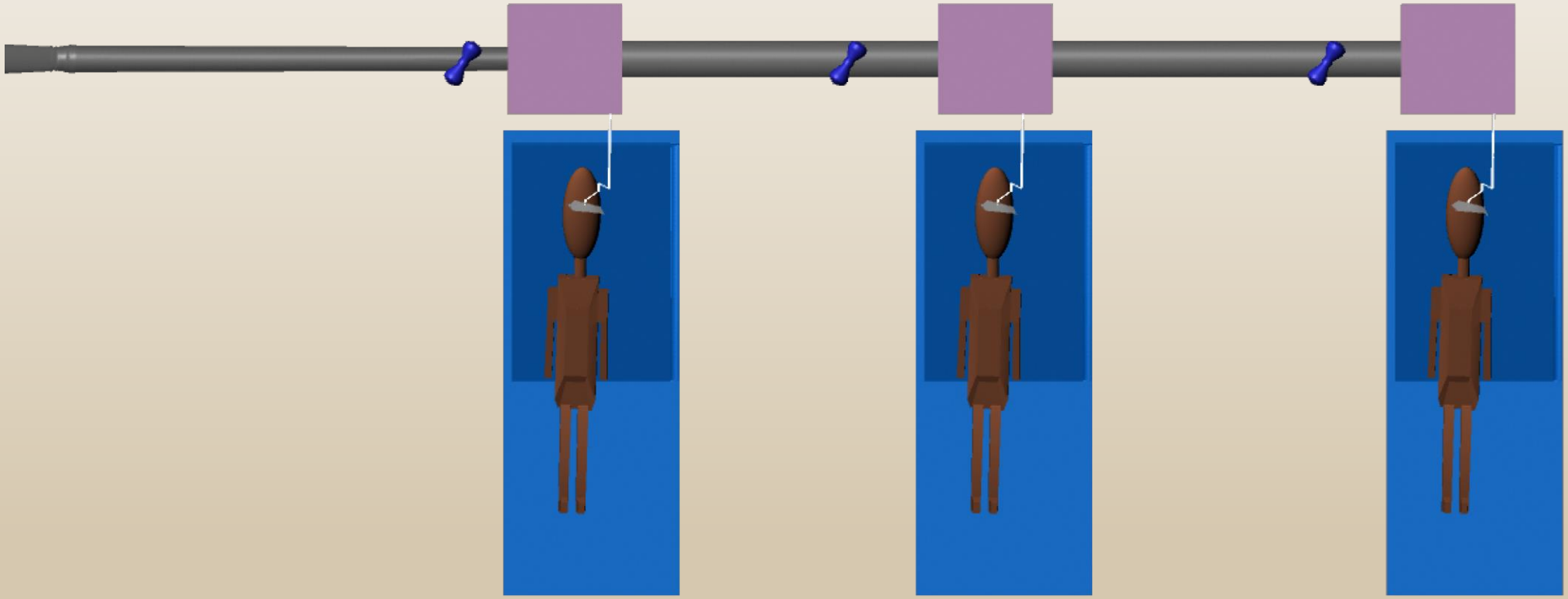
OXYGEN PRODUCTION

USING AN ENGINE

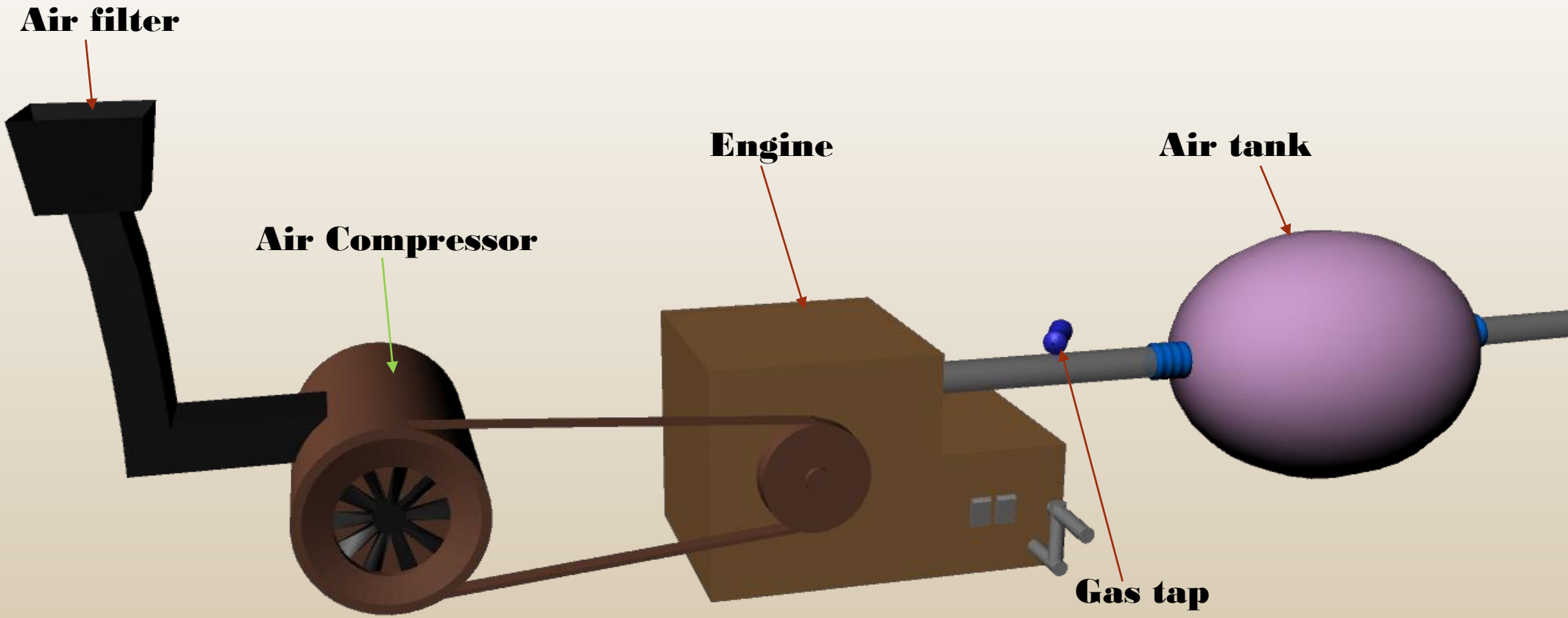

Air filter
Air Compressor
Gas tap
Air tank
Oxygen concentrating units
Oxygen taps
Copper pipes
Patients on beds receiving oxygen
Engine

Oxygen taps

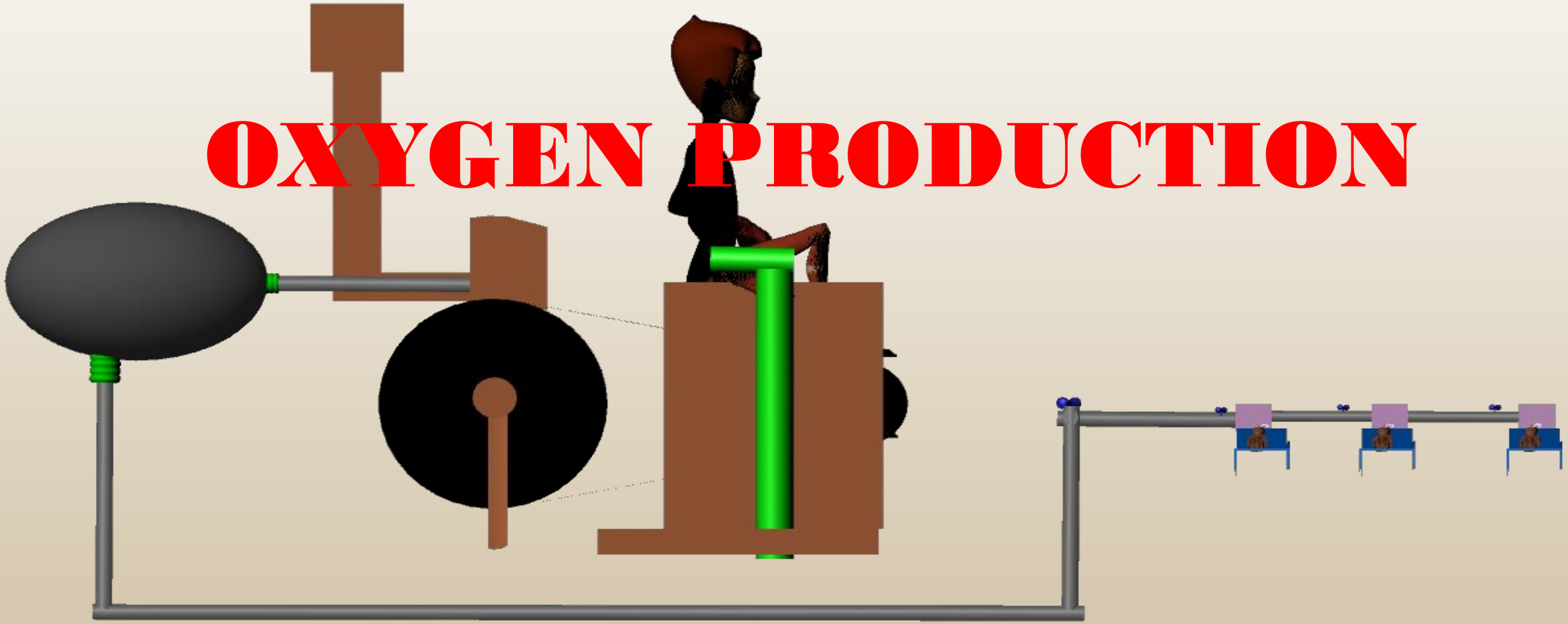
Oxygen concentrating unit



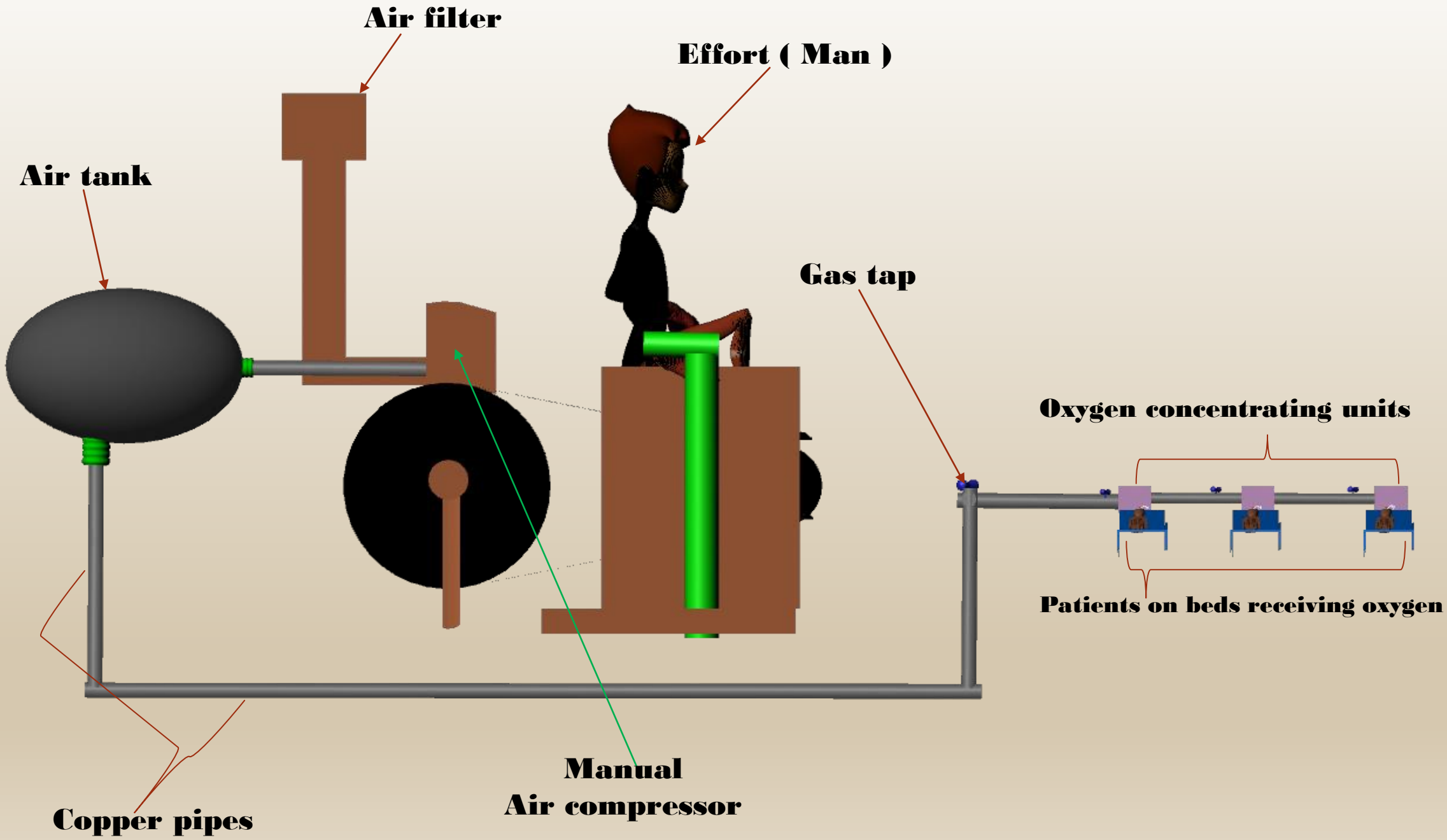
Patients on beds receiving oxygen

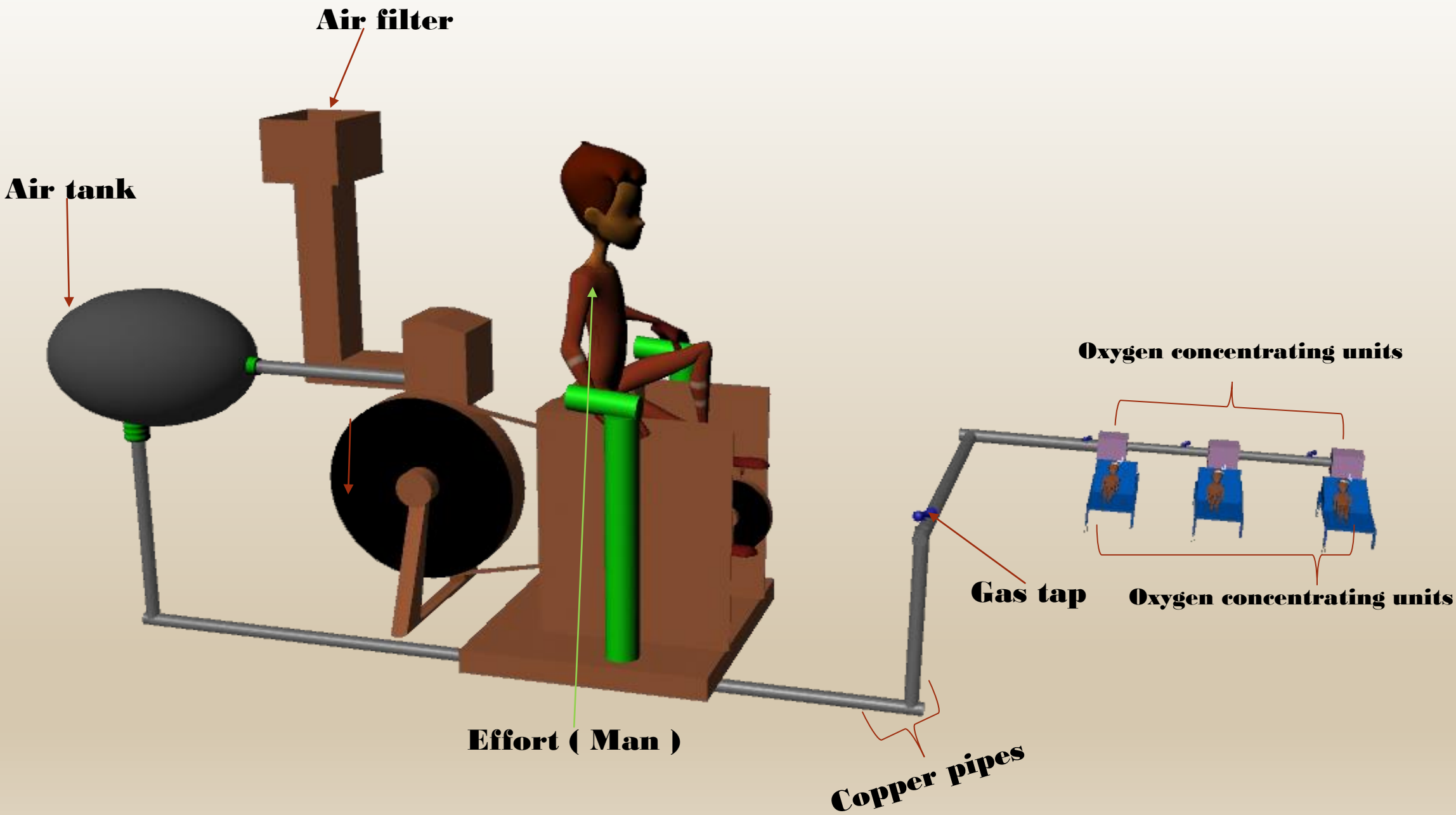

Air filter
Air Compressor
Engine
Air tank
Gas tap

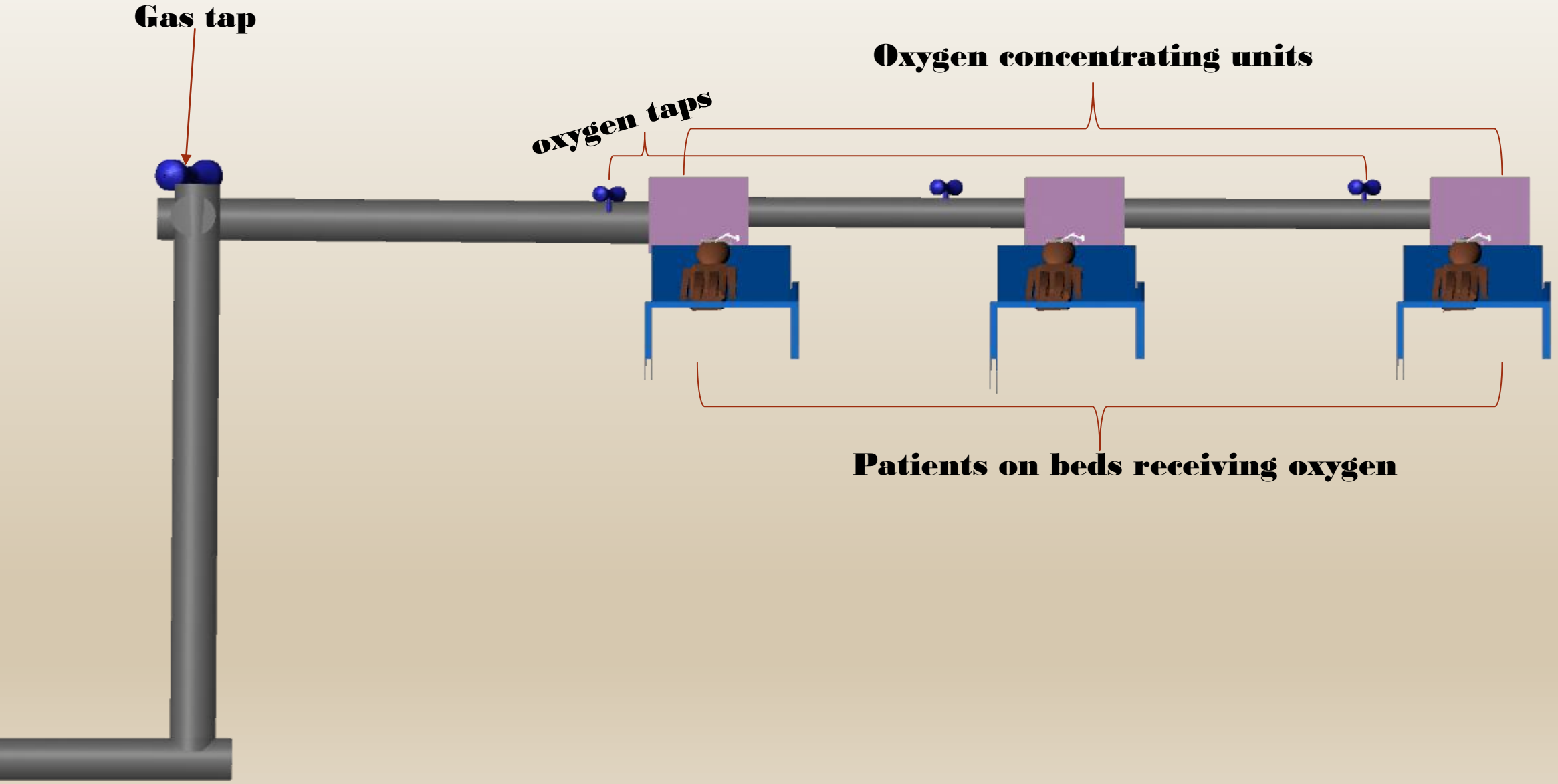
OXYGEN PRODUCTION



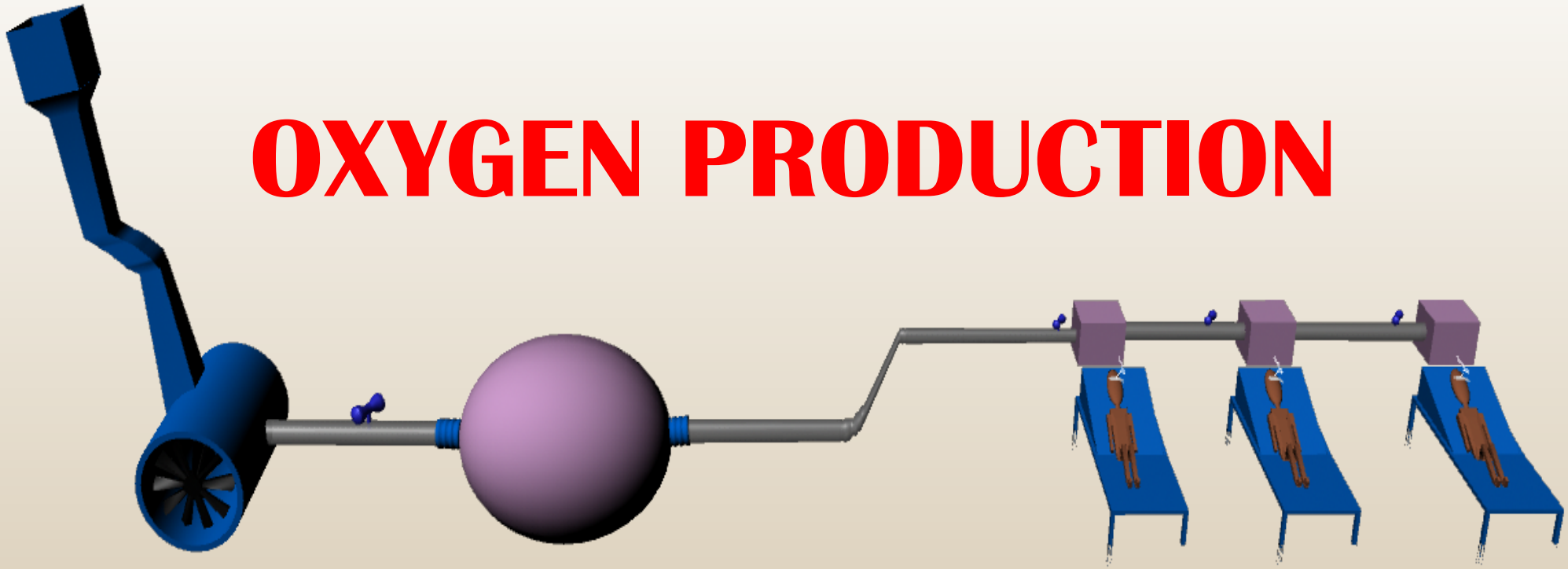
USING A MANUAL METHOD


Air filter
Effort (Man)
Air tank
Gas tap
Oxygen concentrating units
Patients on beds receiving oxygen
Manual
Air compressor
Copper pipes

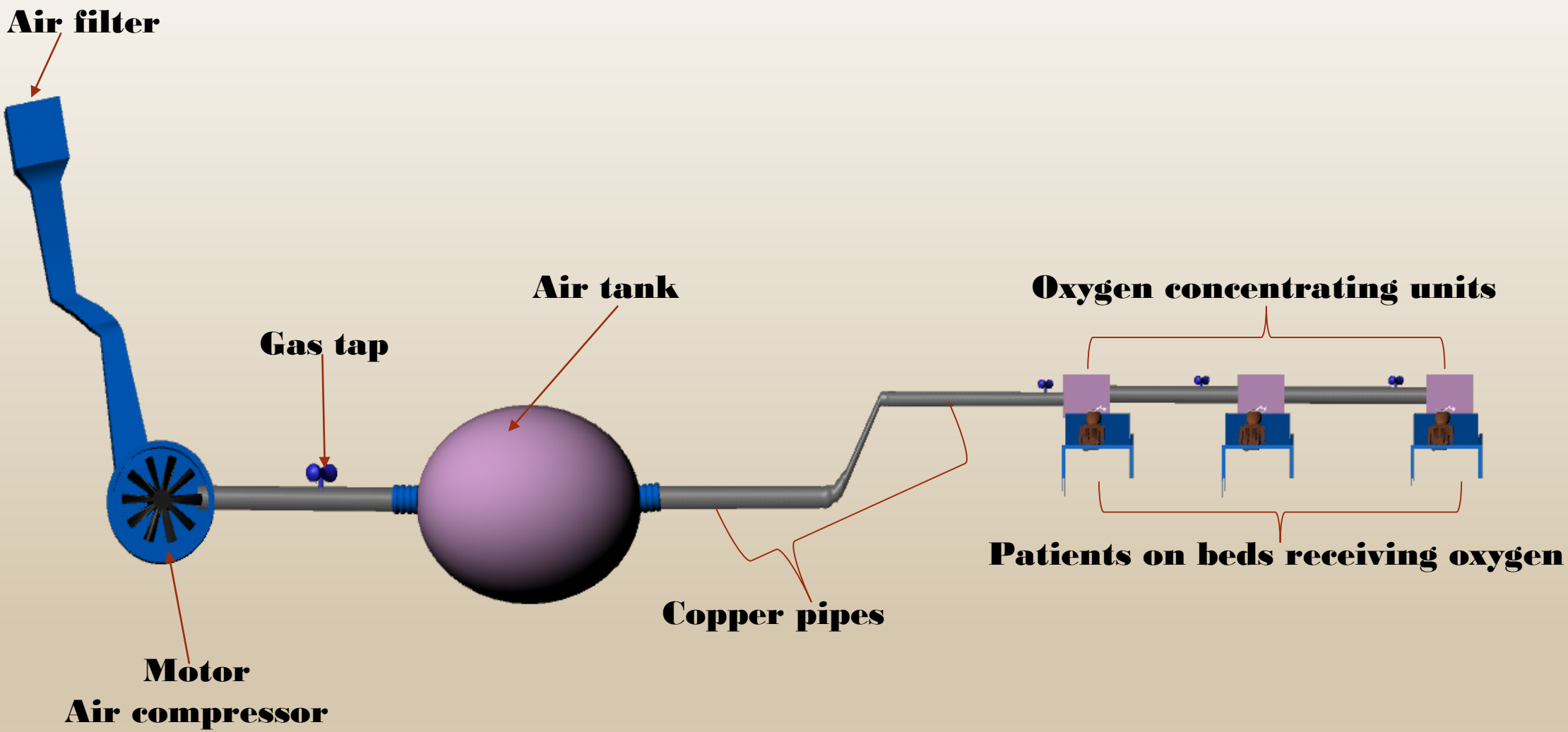

Air filter
Air tank
Oxygen concentrating units
Gas tap
Oxygen concentrating units
Effort (Man)
Copper pipes

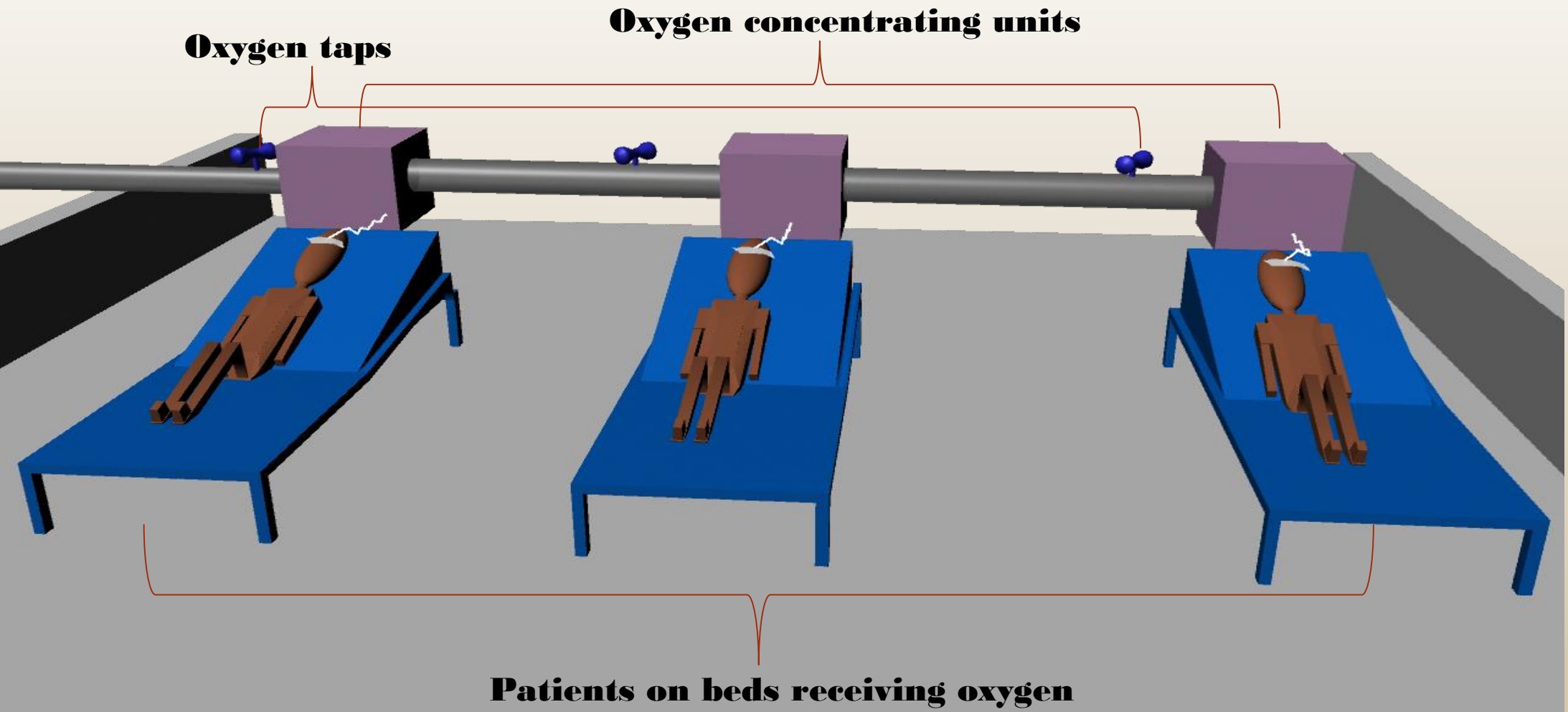

Gas tap
oxygen taps
Oxygen concentrating units
Patients on beds receiving oxygen

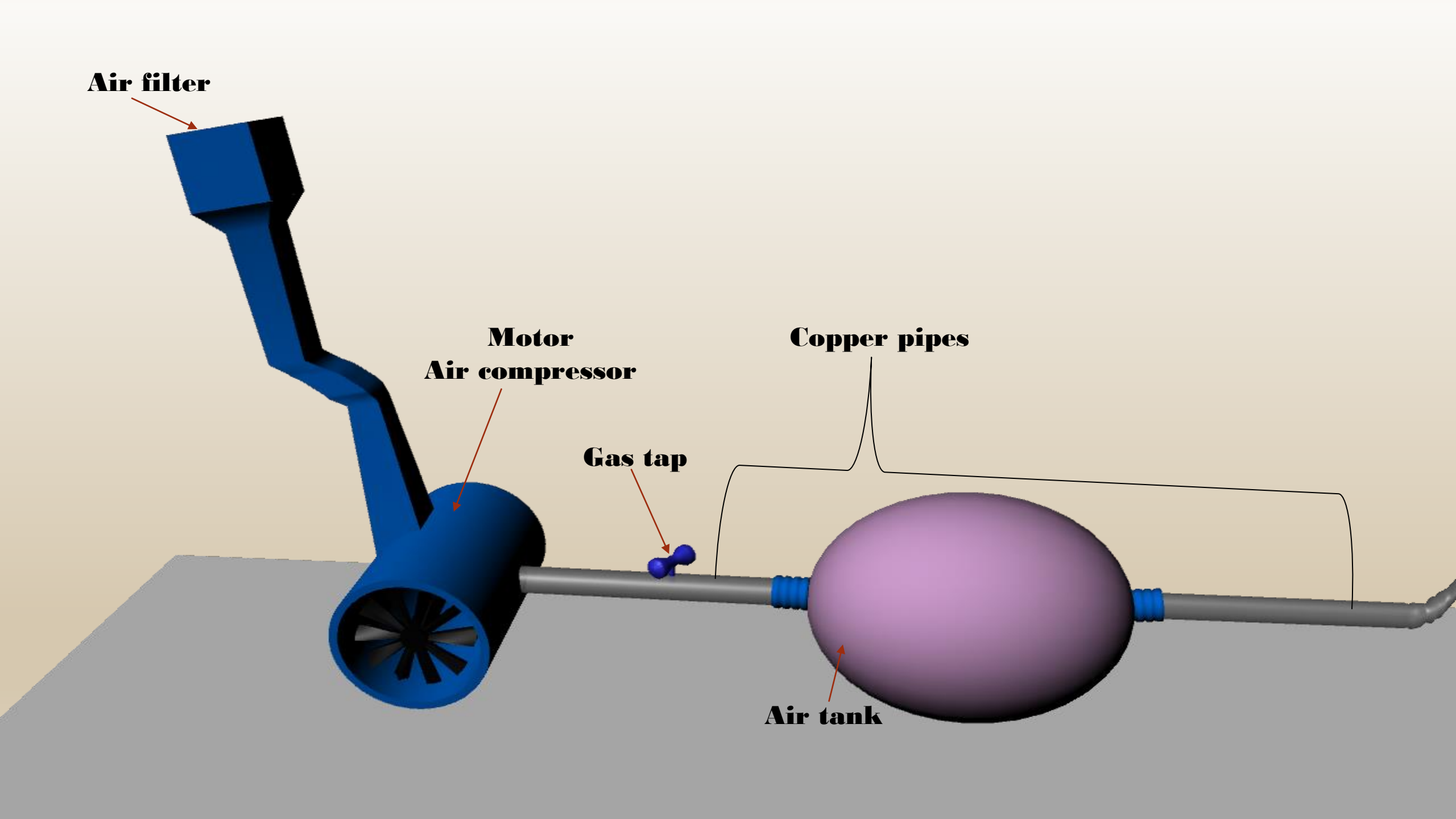
OXYGEN PRODUCTION



USING A MOTOR

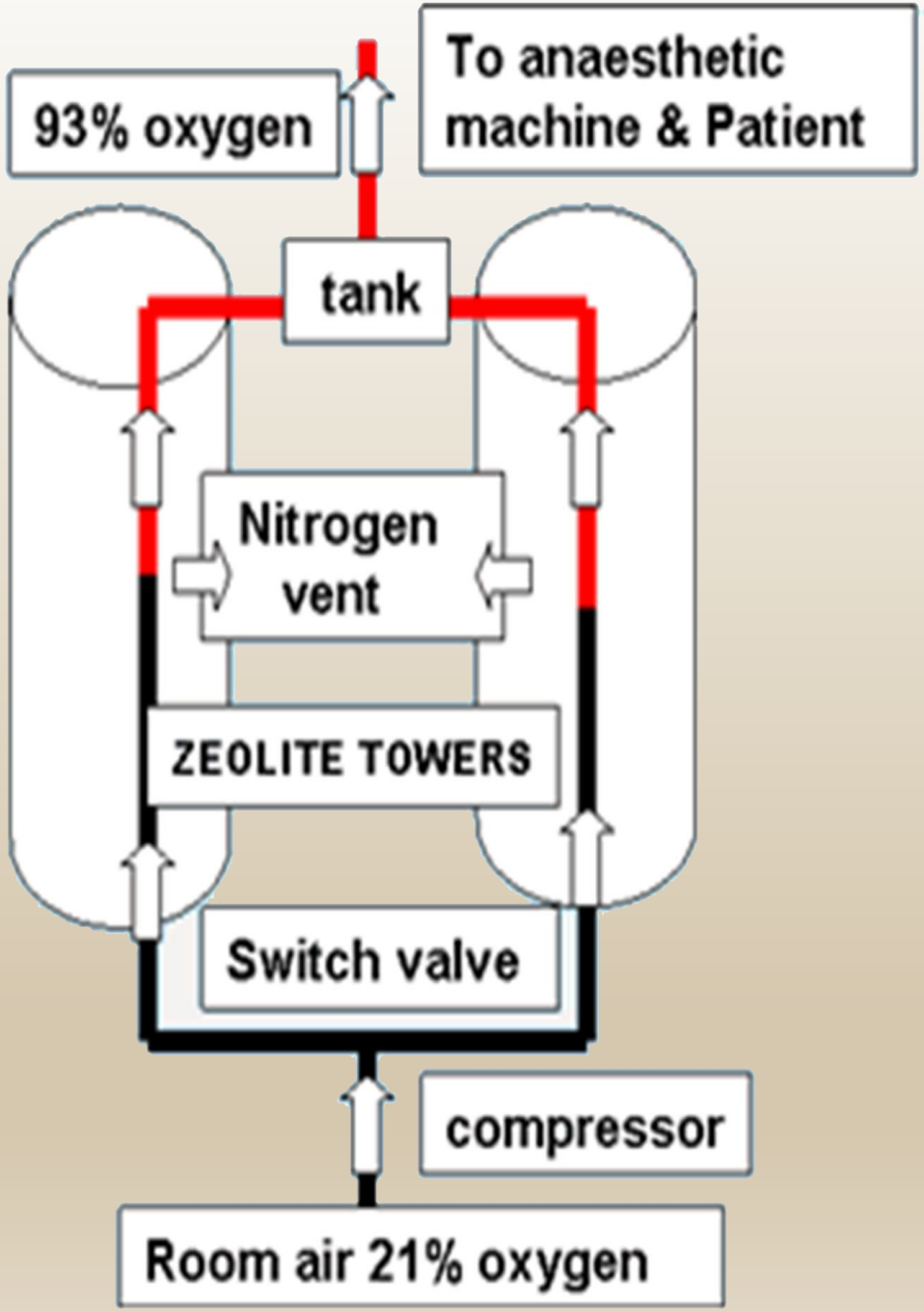

Air filter
Gas tap
Air tank
Oxygen concentrating units
Patients on beds receiving oxygen
Copper pipes
Motor
Air compressor


Oxygen taps
Oxygen concentrating units
Patients on beds receiving oxygen


Air filter
Motor
Air compressor
Copper pipes
Gas tap
Air tank

HOW DO OXYGEN PLANTS WORK?

The air that surrounds us normally contains a variety of gases and 21% of that mixture is oxygen. The oxygen generator draws the air through an intake valve, passes the air through filters to remove contaminants, and then through another molecular filter, which separates the oxygen from the nitrogen, argon and other contents. By extracting the oxygen, the generator delivers a flow of oxygen that will typically have a purity of up to 95%.


To anaesthetic machine & Patient
93% oxygen
tank
Nitrogen vent
ZEOLITE TOWERS
Switch valve
compressor
Room air 21% oxygen

END