

## 1, The title of the invention

Helium air bag framed flying vehicles

## 2, Absract

Helium is lighter than the air, therefore provides green and cheap way to lift weight into the atmosphere of very high altitude, for instance the helium balloon, helium airships. Helium is stable and easy to keep. Here in this invention helium is not used as the prime media to produce lift, instead it is used as a pressured gas to keep flying vehicles in better shape, the shape which is needed for stable flying, with pressured helium air bag framing around the flying vehicle, it is more resistant to outside pressure and force, therefore, improve the flying safety and performance at the same time because better shape produce less drag and turbulence, the lift provided by the helium bag will help keep altitude too.

### 3 Claims

1, Helium air bags and tubes shaped in such a way that best integrated into the original flying vehicles to help improve safety and performance.

2, In fig 1, several air foil shape air bags are in-bedded into the parachute to help the parachute forming a flying wing, fig 2 is the top view of the parachute. The number of helium air bags depends on the size of the parachute. Fig.4 is the cross section of the helium air bag, which take the form of a air foil.

3, In fig.3, a sail of hang glider is fitted with two air foil shaped triangle air bags at each side of the sail. The helium air bag also take the shape of typical air foil in fig.4.

4, Fig,6 is a hot air balloon strengthened with a ellipse helium air bag at the inside top of the hot air balloon, fig 8 is the cross section of the helium air bag.

5, Fig.7 is a hot air balloon with round tube shape helium air

bag. The helium tubes run all the way along the balloon to a net of helium tubes.

6, Fig 5 is a hybrid of fig.6 and fig.7, the balloon is fitted with helium air bag cap and a net of helium tubes.

#### 4 Background of the invention/Field of the invention

This is a hybrid flying method deriving from the helium balloon or air ship with the hot air balloon, hang glider and parachute. Those flying vehicles are made of very light plastic sheet which is very easily de-framed by forces exerted by the air during flying. With pressure helium air bags and tubes, it will strengthen the vehicle structure and provide some extra lift to improve performance. They can also be called as special helium air ship or balloon in which helium is not the main force to provide lift but as a pressured air frame to keep the flying vehicle in the desired flying condition. It improves safety and performance at the same time, it help the flying vehicle better shaped, it take some of weight lifting to help keep altitude, with air bag framing, it is more resistant to wind

force which may change the shape of flying vehicle, makes it less functional or even destroy the vehicle. The idea works the best with the hot air balloons, because helium air bag can take some weight lifting job and the fuel can be reserved for producing hot air steering the balloon. Since the size of balloon is huge there is more room for helium tubes to cross each other to form a net of helium tube, or a large helium cap, the balloon does not need to be blown open by hot air.

## 5 Summary of the invention

The helium air bag is an accessory to the original flying vehicles, the original vehicle can still function when the helium air bags are empty, just not as good as helium assisted flying.

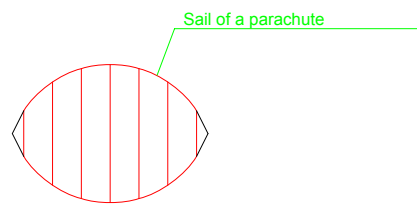


Fig.1

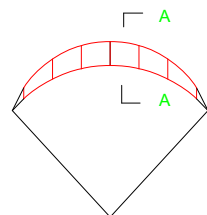


Fig.2

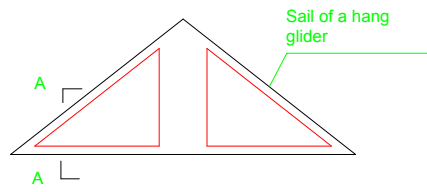
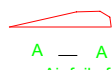


Fig.3



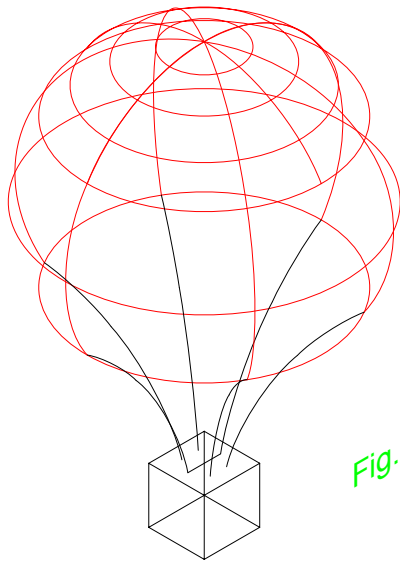


Fig.5

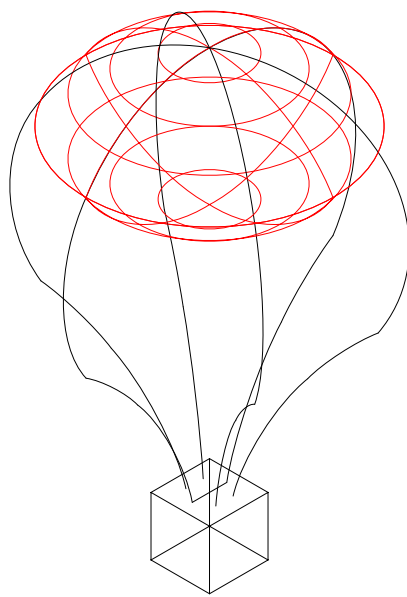


Fig.6

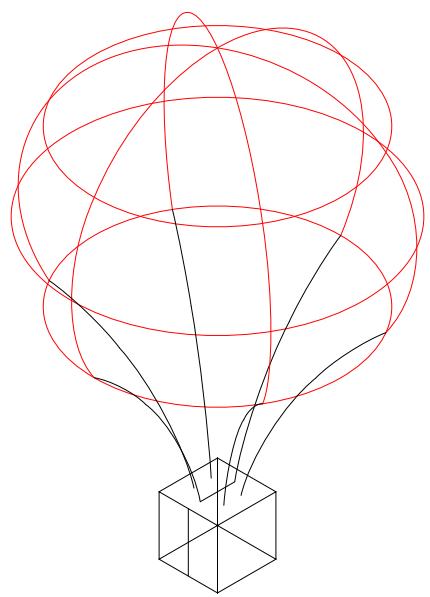


Fig. 7



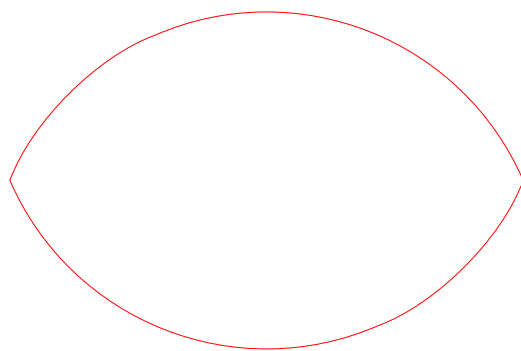


Fig.8

Helium bag cross section in  
fig.6



Helium tube cross  
section in fig.7

Fig.9