a) Short translation of the patent of:

Rastrelli Giuseppe from Torino Italy
Request 8795; year 1937; patent 358596 of 22th April 1938

Sbjct: System for the construction of parachutes that can be driven, fast opened, without central upper hole for the air way-out.

The inventor explain how work the air flow in a spherical chute, with (1) and without (2) upper hole, then he shows (3a) a kind of double surfaced chute with an air tunnel by which the airflow has a way-out in the rear of chute, creating a reaction force (3b,c,d).

Then he shows another kind of chute with similar principle, but with a triangular shape (4a,b,c).

Another kind of chute (5a,b) is provided by a second sail placed over the original spherical holed sail. In that way a tunnel allow the air coming from the hole to flow in direction of the perimetral way-out. (this idea seems to introduce the paraglider principle n.d.r.).

The (6a,b) sketch shows the idea of an high speed opening system unable to stay open under a strong weight (P). The author suggest a developed system provided by skirts that in the (7a,b) evolution can shorten the opening time and reduce the sink speed while opened. Skirts and internal sail create a double surface as with various mouth catching air and sending air inside the bigger spherical cone. Fig. (8a,b) (9) (10) shows how system works and fig. 11 is an upper view of the chute inflated.

b) Short translation of the patent of:

Lisi Giuseppe from Spoleto (Perugia) Italy
Request 9887; year 1938; patent 367314 of 20th January 1939

Sbjct: Parachute opening in two times, by a driven device able to change the sink speed.

The subject of this is invention is a parachute that can be opened in two times, designed for high speed.

The parachute is essentially made by an half sphere (1) that is opened at launch jump.
The bottom side of the sphere has several reinforced holes (2) in which pass textile cables (4) external and (5) internal that goes to the points (6) and (8).
The external cable (4) holds a parachute cloth (9) in a conoid shape in the high speed configuration.
When the parachutist want to reduce his speed, he leave the carabinier (10) to shift up to point (6), the external cable allow the conoid shaped cloth to be inflated by air and increase the parachute area, reducing the sink speed.
The rope (13) can be pulled by the parachutist to reduce again the parachute surface and control sink speed modifying the surface (9).
Then pulling some of the external calbes (4) the parachutist can modify the one side of surface (9) changing parachute direction.
When surfaces (1) and (9) are both opened, the parachute should reduce the pendulum effect that affect the spherichal paracutes.