J. A. CONTERIO.

AIRSHIP.

APPLICATION FILED FEB. 11, 1911.

1,036,964.

Patented Aug. 27, 1912.

4 SHEETS—SHEET 1.

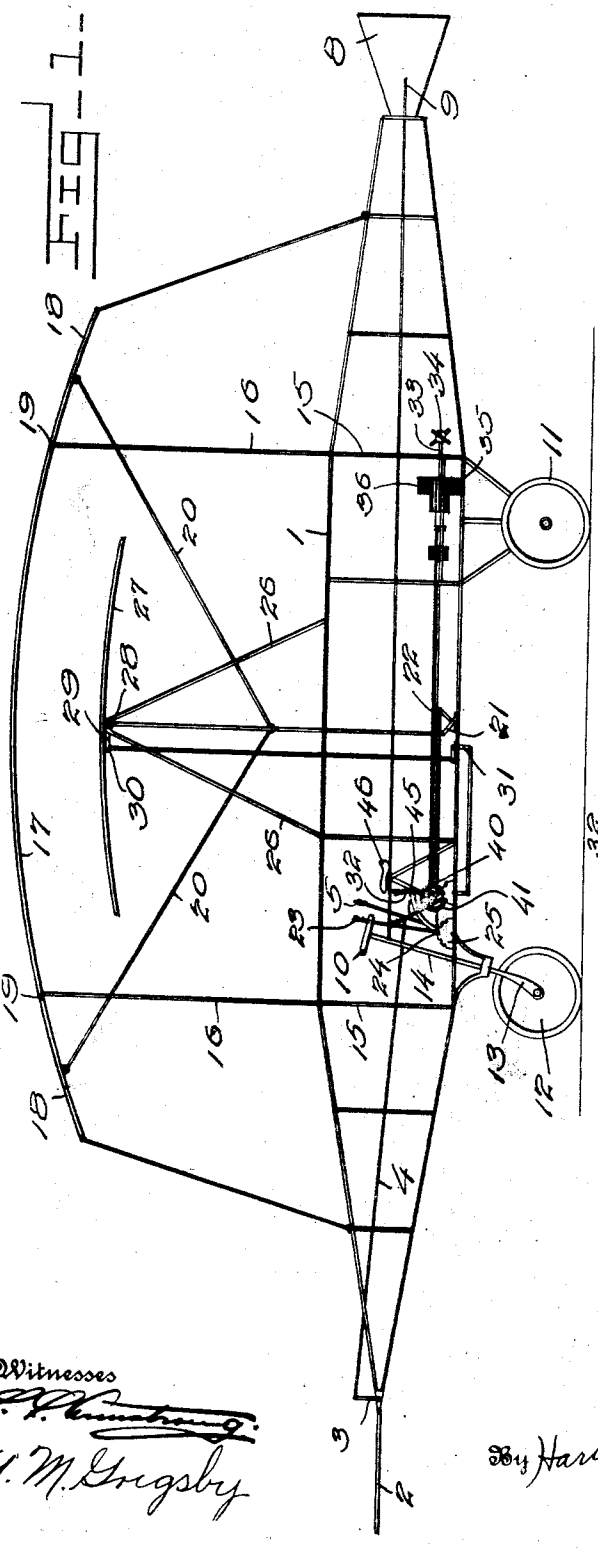

FIG. 1.

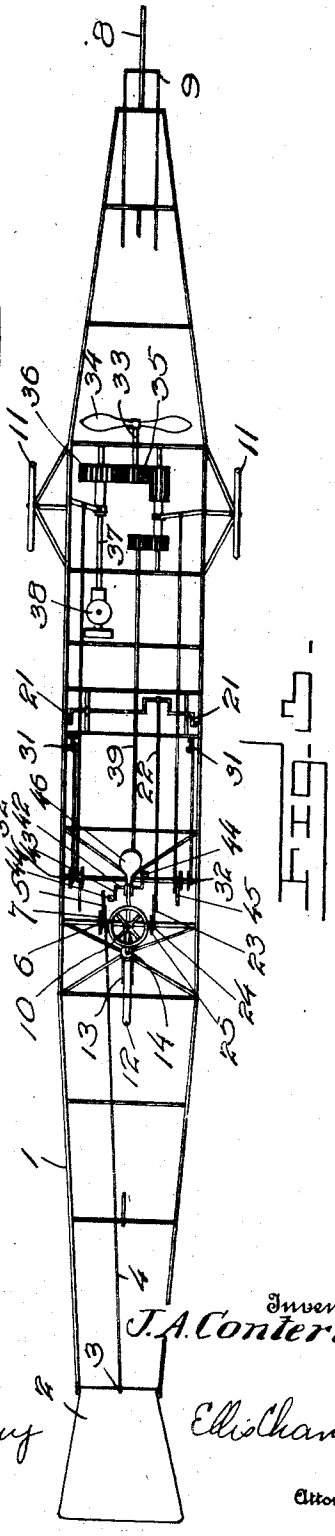

FIG. 2.

Witnesses

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4 SHEETS—SHEET 2.

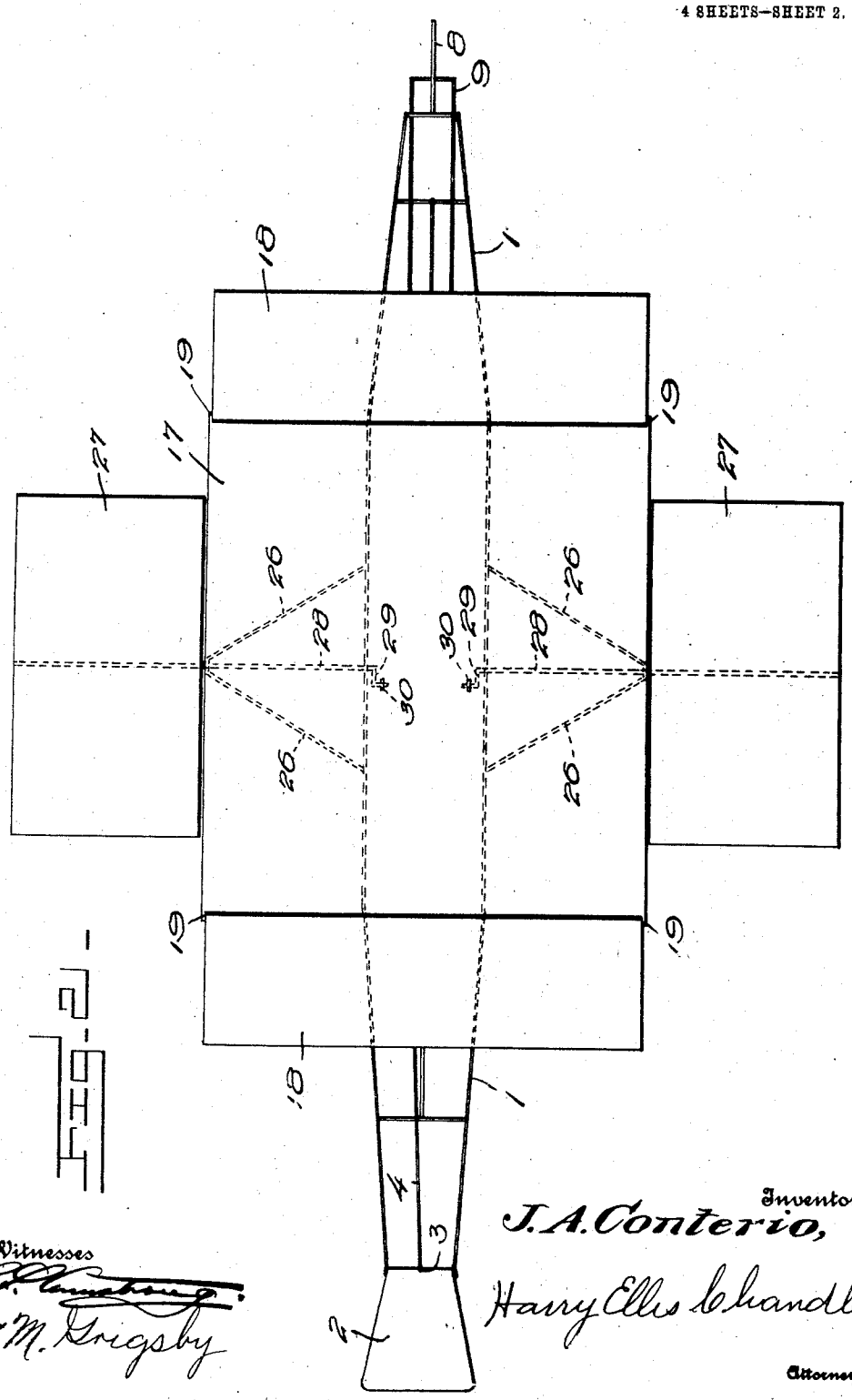

Fig. 2.

Witnesses

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4 SHEETS—SHEET 3.

FIG. 5.

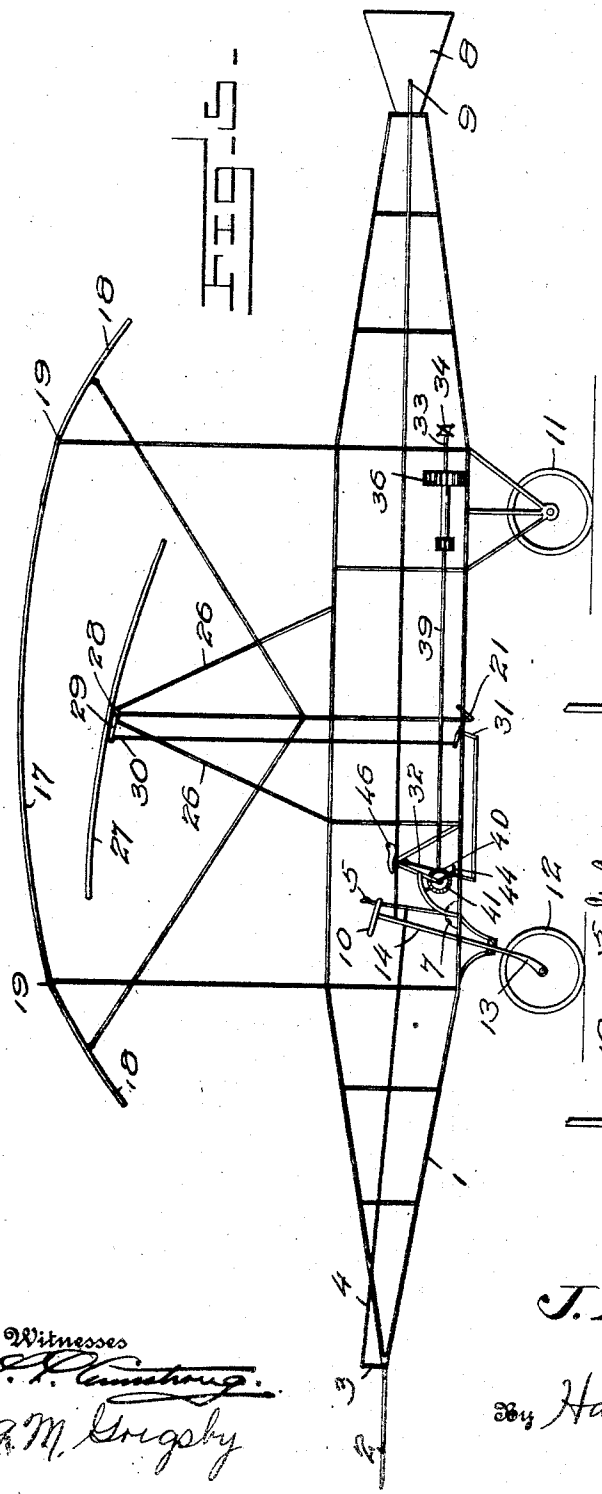
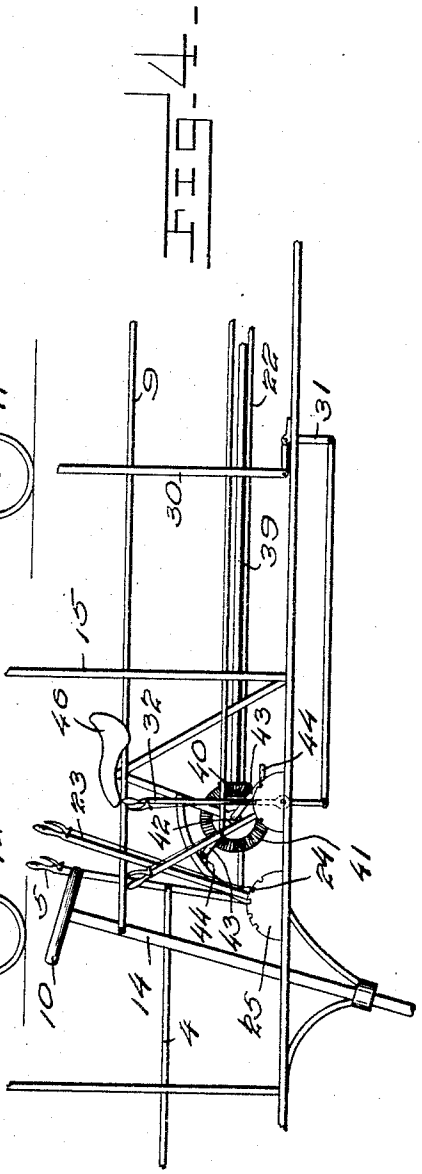


FIG. 4.



Witnesses

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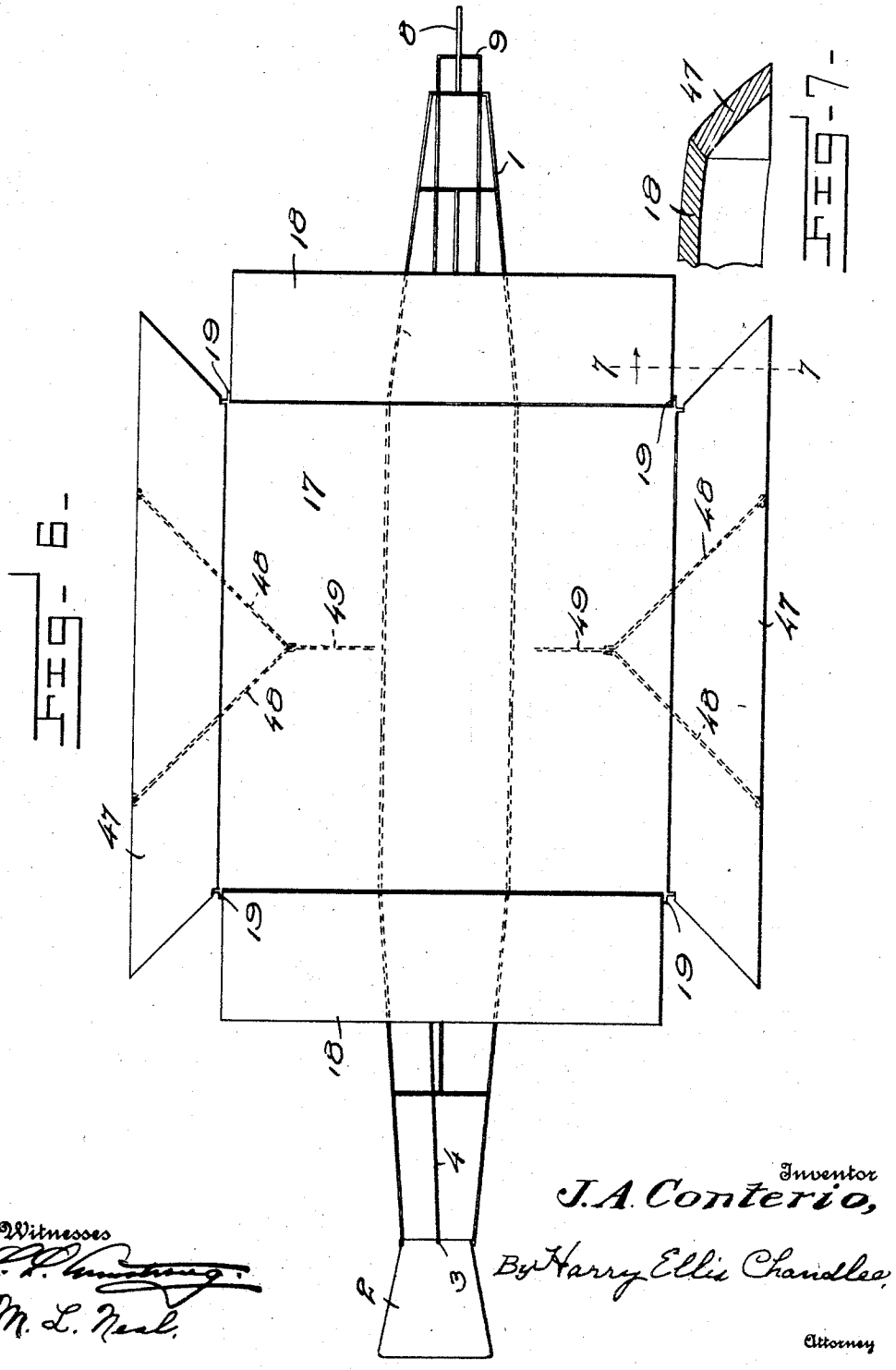
4 SHEETS—SHEET 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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AIRSHIP.

1,036,964. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed February 11, 1911. Serial No. 608,001.

To all whom it may concern:

Be it known that I, JAMES A. CONTERIO, a citizen of the United States, residing at Santa Barbara, in the county of Santa Barbara and State of California, have invented certain new and useful Improvements in Airships, of which the following is a specification.

My invention relates to improvements in airships, and has for its object the provision of an improved heavier than air-machine which shall be simple and compact of construction and readily assembled or taken apart and which shall have certain of its planes adapted to be so moved as to form a parachute to retard the descent of the machine to enable the operator to more readily glide to the ground therein.

To attain the desired object my invention comprises a flying machine substantially as described and as illustrated in the accompanying drawings, although it will be understood that numerous changes may be made in the details of construction within the scope of my claim without departing from the spirit of the invention.

Figure 1 represents a side elevation of my complete machine. Fig. 2 represents a top plan view thereof. Fig. 3 represents a similar view with the wings or planes and supporting structure therefor removed. Fig. 4 represents an enlarged detail view of the foot operated driving mechanism and the adjusting levers, and Fig. 5 represents a longitudinal sectional view showing the plane curved into parachute form. Fig. 6 represents a top plan view of a modified construction of main supporting plane, and Fig. 7 represents a sectional view on the line 7—7 of Fig. 6, the planes being shown in closed position.

In the drawings the numeral 1 designates the cigar shaped metal frame for my machine, having pivotally secured at the forward end thereof the horizontally disposed plane 2 having the bracket 3 projecting upward therefrom, while secured to said bracket is the connection 4 having its other end secured to the adjusting lever 5 of the frame, said lever bearing the dog 6 for engagement with the stationary rack 7 to secure the lever in adjusted position, the shifting of the lever swinging the plane to regulate the ascent and descent of the machine.

Pivotally secured to the rear of the machine is the vertical plane 8 having the flexible connections 9 secured to each side thereof and extending forward to the guide wheel 10 adjacent the adjusting lever, the rotation of said wheel serving to swing the vertical rudder plane from side to side to direct the lateral movement of the machine.

When the machine is resting upon the ground it is supported on the pair of rear wheels 11 secured on the under side thereof and by the front wheel 12, carried by the fork 13 on the lower end of the guide rod 14 on which the wheel 10 is mounted, the rotation of the wheel 10 guiding the front supporting wheel and thus the machine when the same is on the ground and swinging the rudder to guide the machine when it is in the air.

Rising from the frame 1 are the vertical supporting rods 15 connected at their upper ends by the supplemental frame-work 16 on which is formed the main portion 17 of the supporting wing or plane, while secured to each end of said portion 17 is a flexible wing member 18, the frame-work 16 having projections 19 for supporting the inner portions of said members 18. Secured to the outer ends of the said wing members are the adjusting braces 20 having their lower ends secured to the bell cranks 21 at each side of the machine, while leading from the other arms of the bell cranks are the connections 22 secured to the adjusting lever 23 having the dog 24 engaging the stationary rack 25 to secure it in adjusted position. The movement of the lever 23 serves through the bell cranks and connections to warp or bend the flexible wings 18 to form the supporting plane into a parachute as shown in Fig. 5, the main plane 17 being preferably of concavo-convex shape to aid in catching the air.

Projecting laterally and upwardly from the frame are the brackets 26 to which are secured the ailerons or side guiding planes 27, said ailerons being preferably pivotally secured to the brackets by the shafts 28 having on their inner ends the cranks 29 to which are secured the rods 30 having their other ends secured to the rock shaft 31 having the operating lever 32 suitably secured in adjusted position, the movement of said lever rocking the shaft and through the connections adjusting the position of the ailerons to supplement the action of the front

guiding plane in the ascent or downward gliding of the machine.

To propel the machine I journal at the rear thereof the shaft 33 bearing the propeller 34, the transmission gear 35 being secured to the other end of the shaft. Adjacent said transmission gear are a plurality of other transmission gears 36 of the slide transmission type. Extending forward from said transmission gearing is a shaft 37 connected to the motor 38, a second shaft 39 also extending forward from said gearing. The shaft 39 has secured to its forward end the beveled gear 40 in mesh with the large beveled gear wheel 41 secured on the shaft 42, crank arms 43 bearing pedals 44 being secured to said shaft to drive it and thus, through the various shafts and gearing, the propeller. To control the speed of the propeller and to connect the same with either the motor or pedal driven shafts or both I employ the clutch lever 45 projecting adjacent the operator's seat 46.

From the foregoing description taken in connection with the drawings it will be seen that I have provided a strong, simple, and durable flying machine of the highest efficiency which may be either propelled by the usual driving engine or upon failure of said engine may be driven by foot power to thus obviate the dangers of gliding to a landing from a height and being entirely dependent upon the momentum of the machine for carrying the machine and operator to a safe landing place. It will further be observed that in the case of failure of operation or breaking of the propeller or of any of the guide planes the machine may still be used as a parachute to cause it to gradually descend to the ground instead of whirling through the air and being smashed by unretarded striking of the ground, as has hitherto occurred when the ailerons either become broken or have refused to operate.

In Figs. 6 and 7 I have illustrated a modification of my construction for providing a still more efficient parachute from the upper plane. In these figures I have secured to the sides of the main plane 17 the trapezoidal-shaped planes 47 having their shorter or top side secured to the main plane in the same manner that the planes 18 are secured to the main plane 17. It will thus be seen that when in open position the planes 47 lie substantially parallel to the main plane, while when it is desired to form the parachute I connect the planes 47 by the rods 48 and link 49 to the operating rods of the planes 18, thus causing the end and laterally supplemental flexible sections of the main plane to curve downward in unison, when closed the edges of the end planes fitting tightly against the inclined edges of the planes 47 to make a dome shaped parachute, as will be best understood by reference to Fig. 7.

I claim:

In a flying machine, the combination with a main supporting plane, of supplemental flexible side and end sections pivotally connected to the main plane, the end edges of said sections being free, the side sections having beveled end edges, and the end edges of the end sections being straight and means for swinging the supplemental sections downward in unison to bring the ends of said sections together to transform the supporting plane into a parachute.

In testimony whereof I affix my signature, in the presence of two witnesses.

JAMES A. CONTERIO.

Witnesses:
THOMAS MEEK,
THOMAS B. MACMAHON.