

Travels through space with Parseval!



Luftfahrzeug-Gesellschaft m. b. H.
===== *Berlin* =====





His Excellency, the retired Secretary of State von Hollmann
President of Board.

Captain in the reserve von Kehler Major Dr. ing. h. c. von Parseval
Managing Director. Constructor of the Parseval dirigibles.

Dr. h. c. and Dr. ing. E. Rathenau
Substitutive President of Board.

Luftfahrzeug-Gesellschaft m. b. H.
===== Berlin-Bitterfeld =====

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In these five words is summed up the story of the mastery of the air won for the German nation through the efforts of a number of German engineers and financiers, continued through five long years. When accounts of the brilliant success of the French dirigibles first appeared in the newspapers, in the year 1905, Germany turned its eyes to the West, in anxious apprehension lest a foreign nation should have, once again, created a new instrument of transport and of warfare. Its military value, in case of war, might well prove decisive, while in time of peace it was destined, no doubt, to create a new industry providing employment for thousands of bread-winners.

The danger of the menace contained in this new instrument of war, against which there was no means of defence, was clearly realised throughout Germany. For we still remembered the famous saying of that First Lord of the British Admiralty, who proudly informed Parliament, in the year 1849, that every vessel showing the red, black, and gold colours would promptly be treated as a pirate. Nor had we forgotten how many years had been spent in the struggle to enable us to meet our strong opponent on the seas with a fleet which, even though inferior in numbers, could worthily uphold the honour of our flag. What serious result might not ensue if Germany remained unprovided with aerial craft?



H. M. the Emperor on a visit to the hangars
of the Airship Development Society.



H. R. H. the Crown Prince witnesses an ascent
of the Parseval dirigible.

None other than H.M. the Emperor himself called together a number of representatives of industry and commerce, in the spring of 1906, to discuss with them the possibility of organizing means for constructing aerial craft destined to aid in the conquest of the air. A public appeal for founding a Society for the development of dirigibles was issued in the month of May, 1906.

After the lapse of a few weeks, at a meeting of those who had taken an active interest in the project, this Society was finally created, endowed with a capital of a million marks — £ 50,000. Investigations made in foreign countries by the manager, Captain von Kehler, showed that although great progress had been achieved abroad, nevertheless there was no necessity for acquiring foreign airships or materials

for their construction. Two important German inventions, the Zeppelin and Parseval airships, were thoroughly tested once again, whereafter it was finally decided to place adequate funds at the disposal of Count Zeppelin for continuing his experiments and to buy Major von Parseval's invention outright and to appoint him co-manager. Through the assistance of the Ministry of War and other Departments of State, the new Society was provided with a suitable site for the erection of the first balloon shed for the first experimental dirigible on the Manoeuvring Grounds at Tegel, near Berlin.

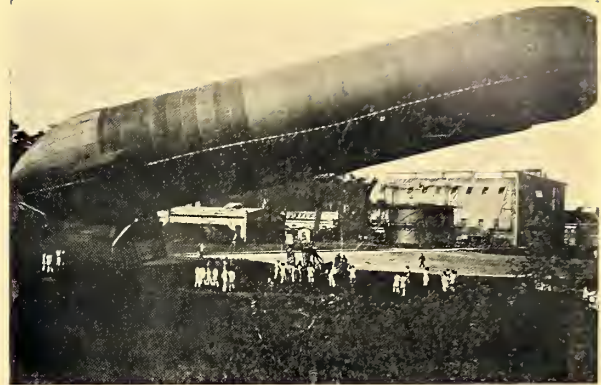


The first experimental dirigible of the Society for Airship Development.

The accompanying photograph shows the first Parseval dirigible which, as is known, still had very rounded bows. This early dirigible had a volume of 3200 cubic metres (112960 c. ft.) and carried in its car a 4-cylinder petrol motor driving a propeller with limp fabric blades, also built to Major von Parseval's designs.

Two considerations determined Major von Parseval to build his first airship wholly on the non-rigid principle. Firstly, by practically eliminating rigid parts of every kind a great saving of weight is effected, and in the second place, these dirigibles, when not inflated, are easily transported and can be assembled and inflated almost anywhere, without any special preparation being made. Consequently the vessel is not bound down to a fixed base, shed or hangar, but can be transported anywhere and inflated on the spot by means of gas compressed in steel cylinders.

During the years 1906-7 the first experimental airship made a large number of ascents and was finally acquired by the Imperial Aero Club after being fitted with a new envelope and having all its parts thoroughly overhauled.



First ascent of the Parseval dirigible.



The Parseval flying over its hangar.

Parseval dirigible PL 1 (E type)

The dirigible was next sent by the Club to take part in the Gordon-Bennett international balloon races at Zurich and there made its first ascent on October 3rd. When the Parseval IV, as it had been re-christened, was first seen in flight over the town it was hailed with the utmost enthusiasm. Like a nation on the march the people streamed out to the balloon grounds at Schlieren, on foot, a-wheel or by train.

The photographs depict the first ascent of the Parseval, and show the men of the Swiss Balloon Corps at work, inflating

the vessel. In spite of the really bad conditions of wind and weather, and although the signal "no ascent will take place to-day," had been hoisted, Major von Parseval and Chief-engineer Kiefer decided to attempt an ascent. The chief of the Swiss General Staff, von Sprecher, was carried as passenger, in this first dirigible-trip from Swiss territory. After landing smoothly in a field adjoining the balloon-grounds three further ascents were made, in which Dr. Forrer, of the Federal Council and Colonel Schaeck took part. Ascent and landing on every one of these trips was absolutely smooth. The tempestuous wind prevented the ascent that had been arranged for the following day. Nevertheless, the Parseval dirigible had clearly proven its efficiency as a vehicle of locomotion even under the particularly unfavourable weather conditions that prevailed.



The Parseval dirigible, owned by the Imperial Aero-Club, during the Gordon-Bennett races at Zurich.



The Swiss Balloon Corps at work.

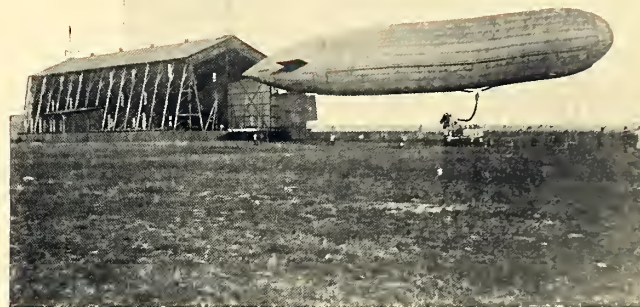


The lion of Zurich
Prix d'Honneur
of the City of Zurich.

For its participation in the races the Parseval vessel was awarded the Prix d'Honneur of the city of Zurich — the golden lion of Zurich — which is shown in the accompanying illustration.

In May 1908, was founded the Airship Company, for the construction of Parseval dirigibles on a large scale. The

first airship, known as the "A" type, which has a volume of 4000 cubic metres (141200 cu.ft.), was immediately acquired by the Prussian War Office and has taken part in the German Aerial Manoeuvres right up to the present day.



The Parseval dirigible PL I in front of its hangar at Bitterfeld.



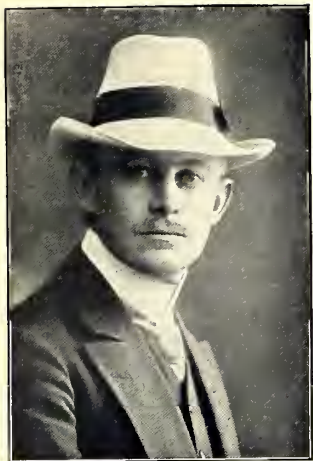
The ascent.



Travelling through space.
The Parseval dirigible PL I before being handed over to the Prussian War Office.



Landing.



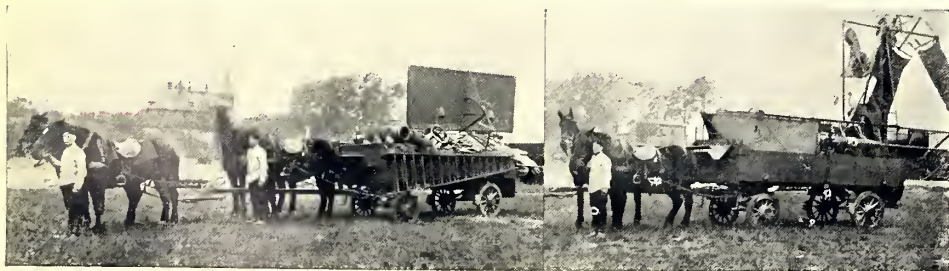
Lieutenant Stelling,
the well-known pilot of the
Parseval Airships.

Whether working from the permanent base at Tegel, near Berlin, from Cologne, or from any other spot, this craft has always given the utmost satisfactory proof of its capabilities; so much so, that the War Office soon placed an order with the Company for a new vessel of considerably increased proportions. And here it may be well to give some details of the materials employed in the construction and especially of the method of suspending the car.

The fabric of the envelope is double-ply cotton fabric, with diagonal threads, and a thick intermediate layer of indiarubber. This fabric reaches the highest possible degree of impermeability. Its strength is such as to afford an effective margin of safety against any pressures to which it may possibly be subjected. In addition to the two interior ballonnets which maintain the gas at a constant pressure with the aid of a ventilator, the hull comprises the following parts: the main valve for emptying the gas, the double air-valves with the feed-pipes for the

ballonnets, two horizontal stability planes in the rear, a vertical stability-fin to which is affixed the vertical rudder, and finally the suspension-belt to which the suspension cordage is attached. The design of the car and its suspension system has been constantly

altered and improved in each vessel; details of the latter therefore will be given as we describe each vessel more fully.



The military dirigible P I, packed on two transport waggons within two hours of landing.



The car of the first Army dirigible P I.



Lieut. Stelling
gives the order "Let go!"



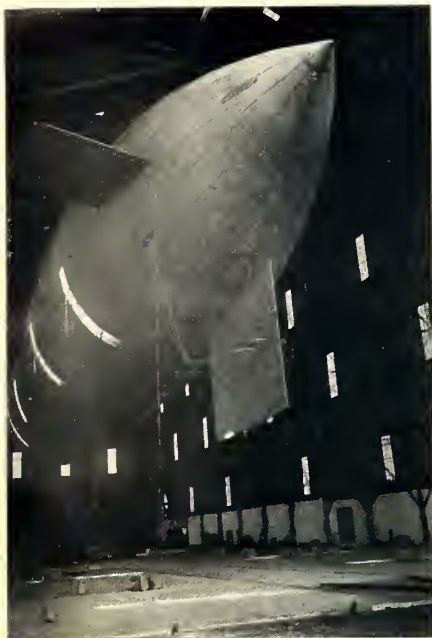
Ascent.



Packing the dirigible after landing.

Vertical steering, in the great Parseval dirigibles, is effected by feeding the air from the ventilator either into the rear or the forward ballonnet alone, or simultaneously into both. If the forward ballonnet is filled to a greater extent than the rear one, the dirigible descends, owing to the fact that the bulk of the gas is driven to the rear of the envelope; the ascent is effected in the opposite

manner. The velocity of the first dirigible P I — about 11 to 12 m. p. s. (24 to 27 miles per hour) was not deemed quite sufficient for military purposes, for which a dirigible must be able to negotiate in safety continuous strong headwinds. It was therefore decided to adopt higher-powered engines, which, owing to their greater weight and consumption of petrol, added considerably to the load to be lifted. In consequence the volume had to be increased from 4000 to 6600 cu. m. (141200 to 233000 c. ft.)

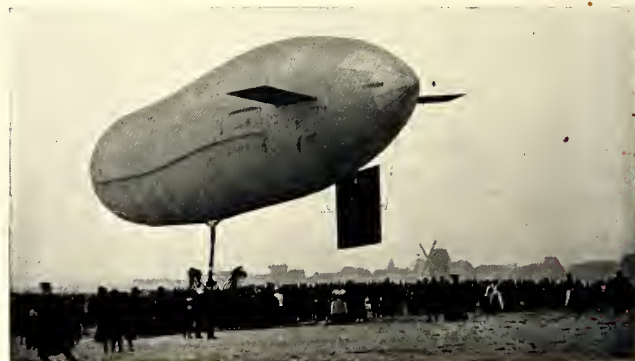


The dirigible P II at Bitterfeld.

The driving mechanism was so designed that either motor by itself can drive both propellers, both motors working in conjunction can drive both propellers or again either motor can drive one propeller. Since there are two couplings, it is quite easy to uncouple the motors; consequently one of the motors only need be started and the other motor can then be thrown into gear.

The Army dirigible P II (B type)

The B type thus came into being, with its two 100 H.P. motors placed side by side. The shape of the hull was also modified: it had been demonstrated during the large number of ascents already carried out and by laboratory tests that the head-resistance of the vessel is actually of less importance than the friction of the air along the sides of the hull. By analogy with marine ships, the lines of the hull were so designed as to offer the minimum of resistance, by allowing the air to flow away regularly towards the rear. The B type and all later vessels consequently underwent considerable modifications in their shape: the hull tapering gradually towards the rear and ending in a fairly sharp point. The construction of the new car, too, required the greatest care having regard to the powerful motors it contained; built of steel throughout, it was in addition reinforced in every direction in order to withstand the thrust of the twin propellers, situated one on either side.



Landing after the first trial ascent at Bitterfeld.

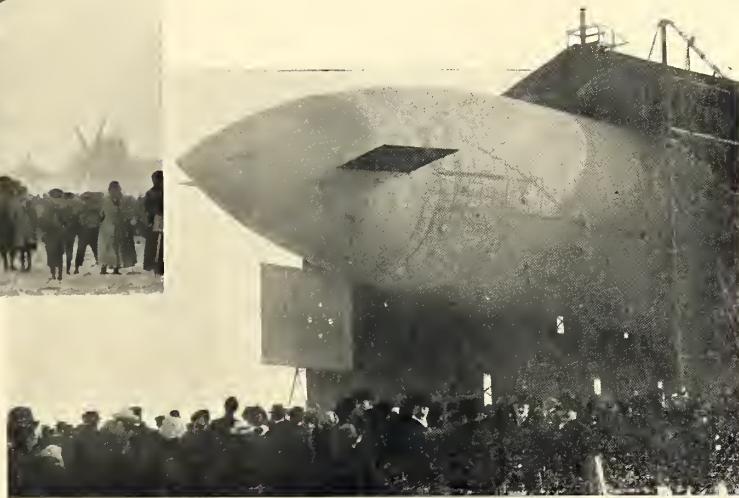


The Army dirigible
"P II" starting on a
long-distance journey.

On this occasion 6-cylinder motors, provided with three carburettors, were used for the first time. With this arrangement it is possible to stop any single pair of cylinders, while the others continue working, in order to make adjustments or repairs while the motor is running during an ascent. Another notable feature of these 6-cylinder motors is the absence of vibration while they are running, a point which considerably adds to the comfort of the passengers in the car.

This dirigible "PL 3" — its official military designation is "P II" — has so far had a brilliant career; it has made more than one-hundred ascents, including journeys extending over several days through the interior of Germany; these cruises will be referred to in detail on another page. The military

authorities — its present owners — especially, have every reason to be satisfied with its performances on active service; it was notably the only dirigible which succeeded in making the journey from Cologne to Homburg and return without mishap. Its success on this latter occasion has proved decisive in regard to the acquisition of further dirigibles of the Parseval type for military purposes.



Housing the "P II" in its hangar at Bitterfeld.



First ascent of the dirigible "PL 4" in Vienna.

Power was the "C" type, a vessel of 2000 c.m. (70600 c.ft.) capacity, actually constructed under licence in Austria to Major von Parseval's designs. This vessel has developed the high average speed of 12 m.p.s. (27 miles per hour) and has given proof of exceptional facility of control owing to its relatively small volume; it can be inflated very rapidly, while a few waggons suffice to transport the gas-cylinders required for inflation.

Repeated messages of congratulations have been received by us from the Austrian War Office.

The remarkably successful series of journeys made through South Germany by the dirigible "P II" led a number of residents of the town of Munich to organise a scheme of passenger services from Munich to Oberammergau and to other popular resorts in the Bavarian Highlands. As a consequence, during the winter of 1909, we received an order from the Parseval Company of Munich for a dirigible of 6700 c.m. (236 500 c.ft.) designed to carry in addition to a crew of 4, a complement of 12 passengers.



Gas-cylinders for inflating a 2000 c.m. dirigible.

The austrian army dirigible "PL 4" ("C" type)

No sooner had the successful performances of the Parseval dirigibles become known in other countries than a large number of orders began to come in from foreign Governments.

The first dirigible built for a foreign



The Parseval soaring over Vienna.



Parseval dirigible PL 6 on a trial trip.

present summer months. This Munich dirigible is practically a sister-ship to P II. Its engines are identical, namely two motors, each developing 100 H.P., while outwardly it only differs by the more elongated shape of the hull — an improvement which will mean an addition to its speed of some 1 or $1\frac{1}{2}$ m. p. s. ($2\frac{1}{4}$ to $3\frac{1}{2}$ miles per hour).



Arrival of PL 6 at Dresden.

The Munich dirigible PL 6 (B type)

This vessel is under construction and was intended to start on its regular passenger-service on June 1 of this year. Unfortunately, the collapse of the hangars while under construction has occasioned some delay. Nevertheless it is still hoped to make the first ascents during the

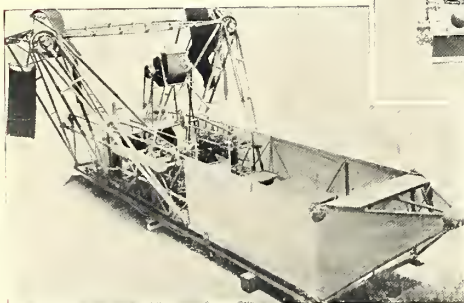


The Russian military dirigible PL 7 (B type)

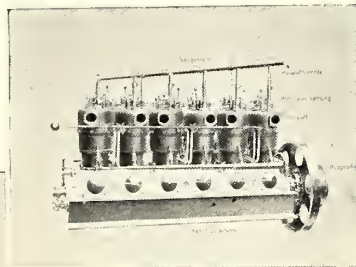
As is generally known the Russian Government at one time acquired several dirigibles in France; but these craft met with but slight success, being disabled during their acceptance trials in Russia partly through fire and partly through defects in the mechanism. The Parseval dirigible built for Russia will shortly be handed over. This vessel also is engined with two 100 H.P. motors, but in this case these are not placed side by side, but disposed



Parseval PL 7 destined for Russia.



Car fitted with two 100 H.P. 6 cylinder motors.
4 semi-rigid propellers.



longitudinally. The Munich dirigible was designed principally in order to carry the greatest possible number of passengers; the Russian Government, on the other hand, demanded high speed in the first place, while the crew will not exceed six men. Although the trials of this vessel are not yet terminated, its velocity will undoubtedly attain 16 m. p. s. (36 miles an hour).

A detail to be noted in the case of the last two named dirigibles is the altered design of the propellers. While the earlier Parseval vessels were fitted with wholly limp propellers, the latest types carry the so-called semi-rigid propeller.

Propellers of this semi-rigid type possess the advantage of greater reliability, while all danger of damage through possible contact



Herr Kiefer,
chief engineer of the
Parseval Airship Company.

with the rigid driving mechanism, as in the case of the wholly limp propeller, is avoided. Furthermore, disasters such as have occurred in France, and also with German dirigibles of the rigid type, due to a propeller-blade breaking off in flight, piercing the envelope and sending the vessel hurtling down like a stone — as in the case of the French "Republique" — are impossible with these semi-rigid screws. Finally, recent laboratory tests have conclusively proved that Parseval propellers are actually more efficient than even the best specimens of rigid wooden propellers.

In the spring of 1910, there was designed a new "G" type, a vessel of 5600 c. m. (197700 c. m. ft.) capacity, which will be driven by two 150 H.P. motors placed one behind the other, and is designed to develop a speed of 17 m. p. s. (38 miles per hour).

The drawings on page 14 clearly show the arrangement of the car and its mechanism, including the engines. This vessel is intended for the Brussels Exhibition and will therefore be completed at the earliest possible moment and navigated to its new harbour.



Pieschen a. Elbe



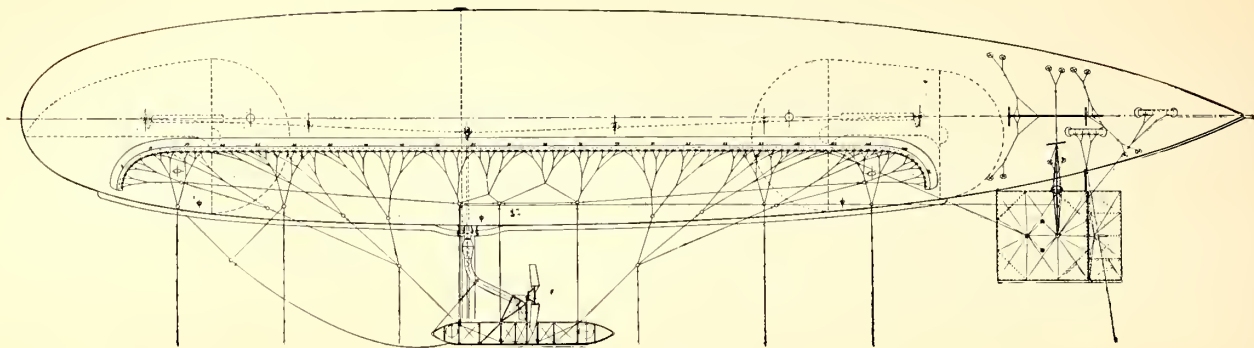
Oschatz



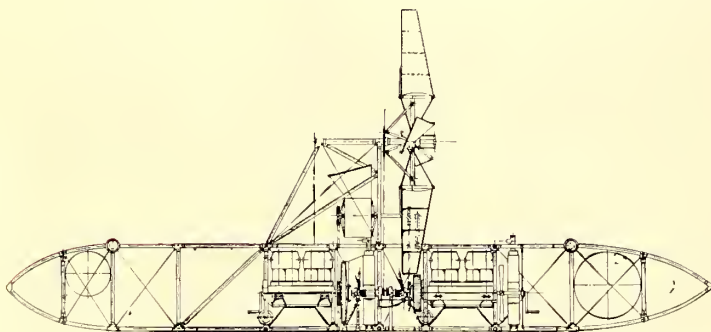
Eilenburg

Photographs taken from the car of the PL 6 during the first trial-journey Bitterfeld—Dresden—Bitterfeld.

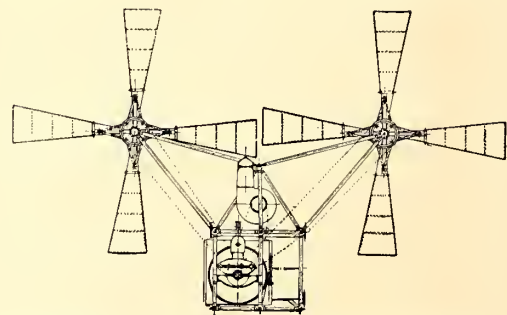
Parseval dirigible for Brussels Exhibition,
197700 c. ft., "G" type (PL 8).



Side-elevation of „PL 8.“ The dotted lines indicate the position of the two ballonnets.



The two 150 HP. motors placed behind one another.



Driving gear of the twin semi-rigid propellers.



The Parseval dirigible of the Imperial Aero-Club circling round the Ducal Castle at Altenburg.

• PART II. •

THE SMALL PARSEVAL DIRIGIBLES.

For sporting purposes, for Clubs, Societies,
or as private pleasure craft.

For commercial purposes, for service at
Exhibitions and for Advertising uses.



German Pilots of Parseval Dirigibles



Captain Hormel.



Lieutenant Forsbeck.



Herr Hackstetter.



Capt. Dinglinger,
Parseval-dirigible pilot.

The sporting dirigible PL 5 (D type)

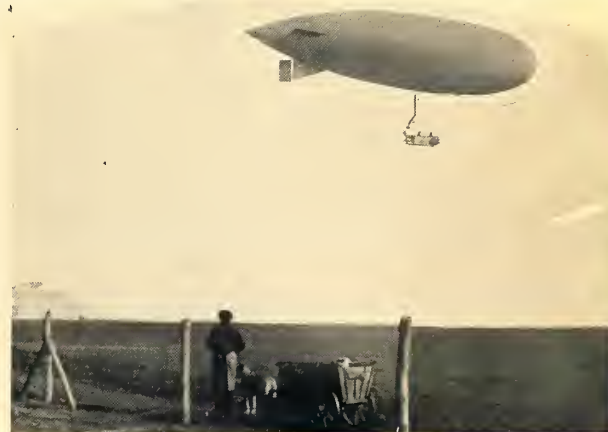
The sporting dirigible Parseval V "D" type, completed at Bitterfeld early this year, was designed with the idea of producing a vessel of the smallest possible dimensions, but capable of carrying from 3 to 4 persons, and attaining a speed of 20 miles an hour or more. The design provided for a run of from 5 to 6 hours. In its principal dimensions the vessel measures: Length 39 m. (128 ft.), Diameter 7,7 m. ($25\frac{1}{4}$ ft.), Volume 1350 c. m. (47650 c. ft.) By constructing the envelope from strips of fabric running lengthwise, the resistance due to surface friction has been greatly reduced.

In one detail the "PL 5" differs radically from every other Parseval dirigible: vertical steering is effected, not by two ballonnets, but by a horizontal rudder affixed near the bows of the hull and controlled from the car by cables passing over a steering-wheel.

Through this arrangement this vessel is so sensitive to control that it can be navigated with perfect ease at a height of but a few feet from the ground. The interior pressure of the gas, and consequently the rigidity of the hull is maintained by a central ballonnet fed with air by a centrifugal ventilator. In order to guard against the pressure being increased unduly, an automatic valve, opening at 15 m. m. pressure, is fitted between the ventilator and the ballonnet.

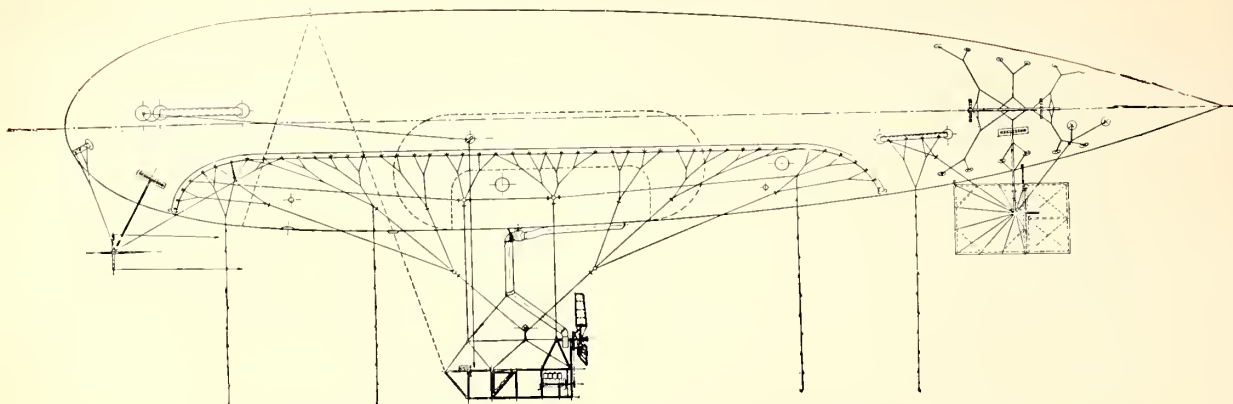
The balloon itself, of course, is also provided with a valve, the latter, however, only opens to a pressure of 25 m. m.

This tiny sporting dirigible has already accomplished many long journeys, notably from Bitterfeld to Berlin and is



The old and the new order of things.

Type D II (PL 9)
under construction



The dirigible PL 9, fitted with two 30 H.P. motors, and forward horizontal rudder.

often hired by Societies and Clubs for the use of their members, by the week or the month. At the present time two further vessels of this D type are under construction: the dirigible PL 9, destined for the Brussels Exhibition, and PL 10 ordered by a German Club. Both these dirigibles differ from the first vessel of this type in that they contain two motors. There is no question but that the internal combustion engine is still liable to break down; and this is the case, not only with motor-car or motor-boat engines, but more particularly with the much lighter aerial engines which, in spite of constant improvement, have not yet reached that degree of absolute reliability possessed by the steam engine. Bearing this difficulty in view, it has been decided to provide this small type of craft, also, with two motors, each developing 30 to 35 H.P., and jointly driving a single propeller.

In this way it becomes possible either to drive ahead under full power with both motors running, or else extend the possible radius of action by running either motor alternatively.



PL 5 flying at 1650 ft.
on its voyage from
Bitterfeld to Berlin.



Leaving Bitterfeld for Berlin.

This arrangement seems so extraordinarily simple and effective that the question justly arises why it was not adopted in the case of earlier dirigibles. The answer is that it is impossible to drive an ordinary rigid propeller at widely different powers without serious loss of efficiency. Major von Parseval first solved the question by the invention of his semi-rigid propeller which is so designed as to possess a variable pitch: this renders the employment of two motors feasible, since the pitch of the propeller is reduced when only one motor is in

action. These variable-pitch propellers have since been generally adopted, and possess the further remarkable advantage of being reversible. Although for the present a dirigible, soaring high through space, stands in no urgent need of being capable of rearward motion, nevertheless facility of control is greatly increased by the possibility of running one propeller forwards while reversing the other.

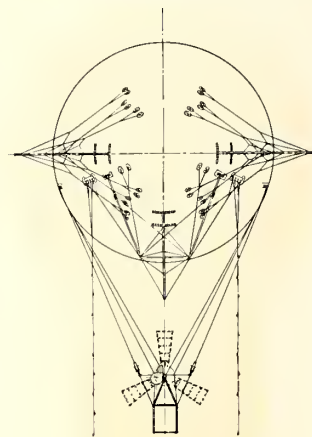


PL 5. Landing at Reinickendorf, near Berlin.

car is suspended from inclined cables running to the bows and stern of the envelope and passing over four pulleys. This arrangement, as is well known, prevents the dirigible from tilting upwards under the thrust of the propeller which is applied to the car. In consequence the propeller works just as favourably as if its thrust were applied to the centre of resistance of the airship.

This device, however, is of the greatest possible use in landing, since it allows a dirigible to land in a restricted space by reversing the propeller.

Another important feature is the suspension of the car. The main suspension-cables form a constant vertical parallelogram and maintain the car in a position parallel to the longitudinal axis of the balloon. In addition the



The suspension of the car.



Travels in the Parseval dirigible — PL 3. —

In the summer of 1909 the dirigible PL 3 was sent to Frankfort-on-Main for the purpose of carrying out a series of passenger ascents during the continuance of the International Aeronautical Exhibition. The extremely small dimensions of the starting ground tested the controllability of the vessel most severely; in spite of this the airship behaved magnificently, more especially in ascending, when it had to rise at a very sharp angle. Again, the fact that landings were regularly made, with perfect safety, on this narrowly circumscribed ground is due to the arrangement whereby the propellers could be reversed, here employed for the first time. In all, the dirigible made 67 ascents, carrying nearly 600 passengers; during the course of the summer of 1909 it remained 145 hours in the air, and covered a total of 3250 miles. Some of the shorter trips extended to Homburg, Wiesbaden, Mainz, Mannheim, Nauheim, Giessen, Coblenz, etc. These ascents won many prizes amounting in the aggregate to £1600. In being awarded the Emperor's Prize, Major von Parseval, the designer of the vessel, received the highest honour of the International Aeronautical Exhibition. The longest voyage made by the P III, as the vessel was then designated, was the journey to Munich, via Nuremberg and Augsburg, and back to Frankfort by way of Stuttgart.



PL 3 at the Frankfort Exhibition.

Piloted by Lieutenant Stelling, the able pilot of the early Parseval vessels, the dirigible started from Frankfort on October 12th and returned safely from its long journey in spite of violent head-winds and heavy clouds encountered on the way. In the towns passed en route, the dirigible was anchored in the open during four nights, often in stormy weather; at the end of this long cruise, however, in spite of fog and rain, the envelope showed not a sign of having suffered in strength or solidity. And although parts of this trip were carried out at heights up to 3600 feet, the loss of gas was extraordinarily slight, in all only 600 c.m. (20000 c.ft.) of additional gas were



PL 3 over Nuremberg.

used during the three stops overnight at Nuremberg, Augsburg and Stuttgart. This affords a conclusive proof that alterations in altitude were consistently effected by dynamic means, and that no ballast had to be used for this purpose. Every passenger who was privileged to make a trip in the PL 3 — and among them T. R. H. Prince and Princess Henry of

Prussia, Prince Waldemar of Prussia, the Hereditary Prince and Princess of Sachsen-Meiningen, the Grand Duchess of Hessen-Darmstadt — returned full of praises for the delights of the journey and its comfort, which was materially aided by the total absence of vibration from the motors, even on long distance ascents.

As a sequel to this remarkably successful series of ascents, the vessel was purchased by the Prussian War Office, and the "P II" to give it its new military title — was ordered to the autumn manoeuvres at Cologne. From this base it carried out, in company with its sister-ship "P I", and together with a rigid and a non-rigid dirigible, a series of scouting trips, the results of which are obviously not available. But at any rate the inhabitants of Cologne were able to witness the splendid spectacle of 4 German War dirigibles — among them two Parseval vessels — circling round the towers of the Cathedral. At the end of these manoeuvres the airship started upon a long cruise of 225 miles to the town of Gotha. Soaring high above the battlements of the old Wartburg, this craft of the air must have presented an inspiring sight; and many a one, looking up from Martin Luther's rooms at this new vessel winging its lofty way over the ancient Castle, must have likened the impending importance of aerial navigation to the revolution brought about, long ago, by the great reformer in the spiritual life of the German people.

A few hours later the vessel, piloted by Lieutenant Stelling was overtaken by a fierce snow-storm, such as has rarely been seen at this time of the year in any part of Germany. To continue the journey was clearly out of the question, since the thick driving snow rendered it impossible to see one's hand held up at arm's length.



The war dirigibles "P I" and "P II" circling Cologne Cathedral.



An improvised shelter
from the storm.

competent leadership, while on the present occasion only a few peasants assisted the crew, and the material was brought in safety by ripping the envelope.

Never have the advantages of the Parseval system been shown in a more brilliant fashion.

May this record achieved bring the Parseval airships a few more friends who may entrust themselves, in absolute safety, to their experienced pilots.



The "P II" after landing in
a heavy snow storm
near Gotha.



Dismantling the car in order to build a
tent for shelter during the night.

It was decided to land, and now the enormous advantages of the non-rigid type in a forced landing were amply demonstrated. In a little under three hours, with the help of a few chance peasants, this enormous vessel, with its volume of 6700 c.m. (236 500 c.ft.) was deflated, dismantled

and packed on two carts ready for transport to the nearest railway station, and this without the slightest damage being caused either to the envelope, the motor or the car and its mechanism. No other type of dirigible could have been even held down in the open country, in such a snow-

storm with a wind blowing in great gusts at a velocity almost double that of the vessel itself.

For the long series of disasters to dirigibles of every other type have occurred in spite of their being held down by hundreds of carefully trained soldiers under

Advantages of the Parseval dirigibles.

Every single trial and ascent yet accomplished with a Parseval dirigible has shown this type to possess the following advantages:

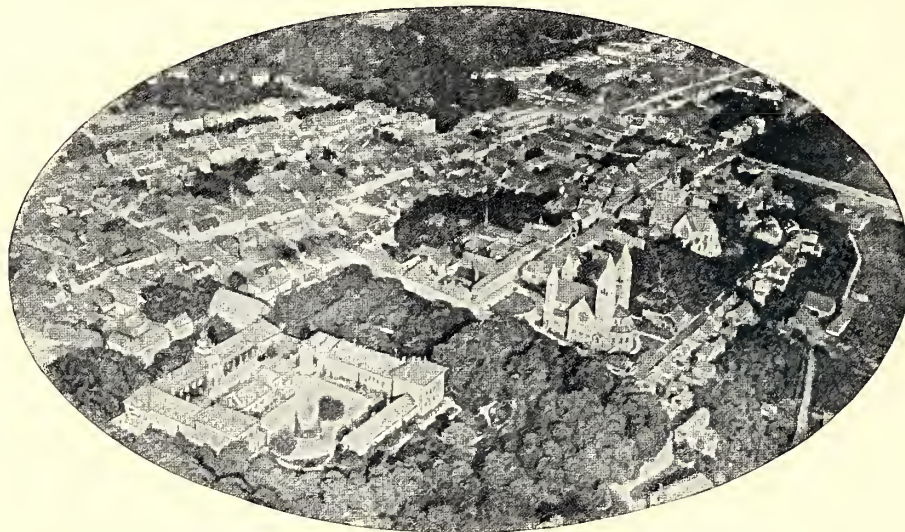
1. The Parseval dirigible is the lightest, because it comprises no heavy rigid framework.
2. The Parseval dirigible is most easily controlled, because its propellers are reversible and so enable it to land safely and easily on the most restricted ground.
3. The Parseval dirigible is proof against the roughest landings, because its rigid parts are cut down to an absolute minimum.
4. The Parseval dirigible is the handiest, because, when deflated, it can easily be transported and need not be inflated until the starting place is reached.
5. The Parseval dirigible, other things being equal, develops the highest speed and possesses the widest radius of action.
6. The Parseval dirigible is the cheapest to buy and to run, having regard especially to the fact that it requires no costly hangars for temporary landings.

Looking back on the last two years during which we have completed seven Parseval dirigibles, while four vessels are even now under construction, we may claim without exaggeration that our dirigibles — judging from their performances alone — are the most efficient airships in existence, whether for military purposes, for sport, or for commercial use.



Landing in the open country without any outside assistance.

Although every vessel yet turned out has shown improvements in detail over its predecessors, the general design has never stood in need of alteration. Even to-day, we are fully justified in our claim to have produced the greatest results possible under the conditions at present prevailing and with the materials hitherto available.



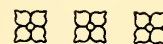
Homburg v. d. H. Photographed from the Parseval dirigible PL 3

May our vessels soar far beyond the frontiers of our country opening up new fields for the development of German industry!





Luftfahrzeug-Gesellschaft m. b. H.



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For the preparation of estimates full details regarding the following points are essential:

Number of passengers to be carried exclusive of the crew.

Maximum Speed required; and whether one or two motors are desired.

Number of hours of ascent without replenishment of fuel.

Description of the site for the proposed hangar.

Every available information regarding the average wind conditions prevailing in the neighbourhood of the proposed hangar.

Particulars of hydrogen supply, or whether hydrogen plant is required.

Luftfahrzeug-Gesellschaft m. b. H.

Chief dimensions of Parseval dirigibles

Type	Designation of vessel	Volume	Length	Master Dia- meter	Span, in- cluding tail planes	Height total	Dimensions of car			Motors	Weight	
		Cu. met.	met.	met.	met.	met.	Length met.	Width met.	Height met.		Envelope with Cordage kg.	Car with Motors kg.
A	PL 1 „ 2	4000	60	10,4	16	17,3	6	1,3	1,2	1 motor ca. 100 HP. or 2 motors à 50 HP.	1350	1480
B	PL 3 „ 6 „ 7	6700	70	12,3	17,8	20	10	1,4	1,2	2 motors à 110 HP.	2220	3140
C	PL 4	2300	50	8,6	12,6	18	5,5	0,8	1,1	1 motor ca. 85 HP. or 2 motors à 45 HP.	940	800
D	PL 5 „ 9 „ 10	1350	40	8,0	12	16	4,5	0,9	1	2 motors à 33 HP.	550	480
E	PL 1	3200	60	9,4	15	16,6	7	1,3	1,3	1 motor à 80 HP. or 2 motors à 40 HP.	1300	1400
F	—	1600	45	8,2	12,5	17	5,5	1	1	2 motors à 33 HP.	—	—
G	PL 8 „ 11	5600	68	11,0	17	19	10,2	1,35	1,2	2 motors à 150 HP.	1600	1800

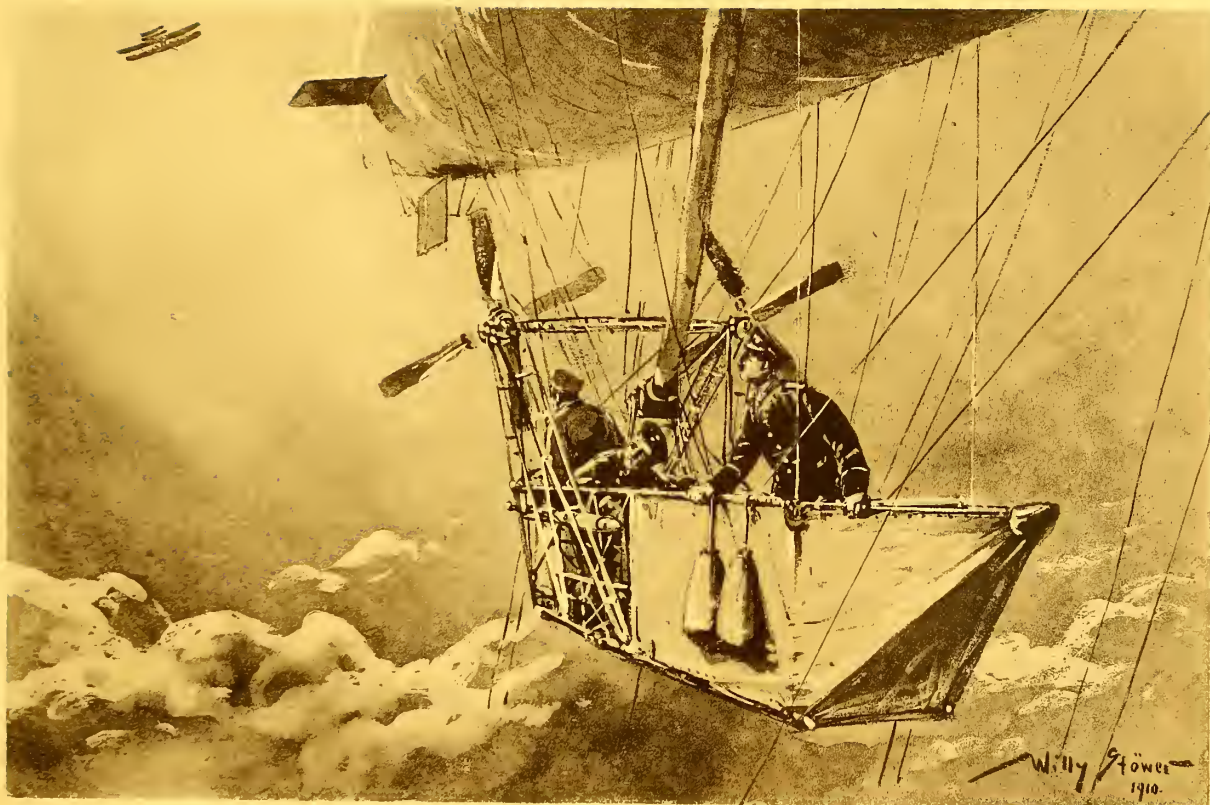
Capabilities of the Parseval dirigibles

Type	Designation of vessel	Volume cu. met.	Speed		Length of flight hours	Altitude attainable metres	Crew and passengers total	Crew only
			met. per sec.	miles per hour				
A	PL 1 " 2	4000	13-14	29-31	15	2000	6	3
B	PL 3 " 6 " 7	6700	14-15	31-34	20 and over	2500	12-16	3 or 4
C	PL 4	2300	12,5	28	8	1000	4 or 5	2 or 3
D	PL 5 " 9 " 10	1350	12	27	5	1000	3 or 4	1 or 2
E	PL 1	3200	12-13	27-29	10	1500	6-8	2 or 3
F	—	1600	12	27	6	1000	4	1 or 2
G	PL 8 " 11	5600	16-17	36-38	20 and over	2000	7-12	4

The statements of the total hours capabilities pass for average speed, those of the highest passenger capacity for economical speed.

Record of the Parseval dirigibles

Designation	Type	Volume	Utilisation
P L 1	a	4000	Originally experimental craft
	E	3200	Subsequently rebuilt (Club dirigible)
P L 2	A	4000	Military dirigible „P I“
P L 3	B	6600	Military dirigible „P II“
P L 4	C	2300	Austrian Military dirigible
P L 5	D	1450	Pleasure craft
P L 6	B	6800	Owned by the Munich Parseval Co.
P L 7	B	6700	Russian Military dirigible
P L 8	G	5600	Fast craft for Brussels
P L 9	D	1350	Pleasure craft II
P L 10	D	1350	Pleasure craft III
P L 11	G	5600	Fast cruiser for the Prussian War Office



The military dirigible "P III" announcing the approach of a Wright aeroplan by wireless telegraphy.



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