

MEANS OF TRANSPORT
THAT *ALMOST* CHANGED
THE WORLD



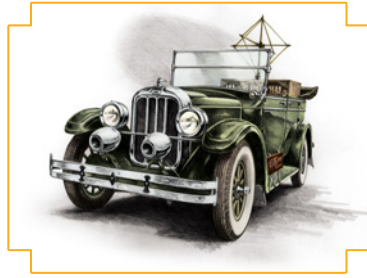
Illustrated by Martin Sodomka

MEANS OF TRANSPORT THAT *ALMOST* CHANGED THE WORLD ♦ Illustrated by Martin Sodomka



MOVING WALKWAY

1900



FRANCIS HOUDINA

1925



HAFNER ROTABUGGY

1943



BRISTOL BRABAZON

1949



RMS OLYMPIC

1911



DYNASPHERE

1930



**MODEL 118
CONVAIRCAR**

1947



CONVAIR XFY POGO

1954

1900

1905

1910

1915

1920

1925

1930

1935

1940

1945

1950

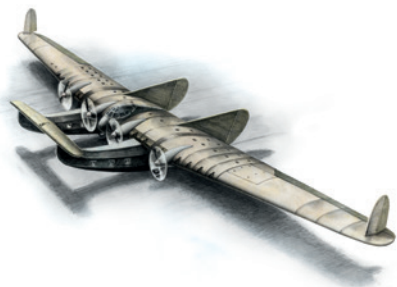
1955

TIME LINE



**BRENNAN'S
MONORAIL**

1903



JUNKERS J1000

1924



DORNIER DO X

1929



**SOCOVEL 1942 ELECTRIC
MOTORCYCLE**

1941



MOTO MAJOR

1948



GM FIREBIRD

1953



**FLYING PLATFORM
AND THE
ROCKET BELT**

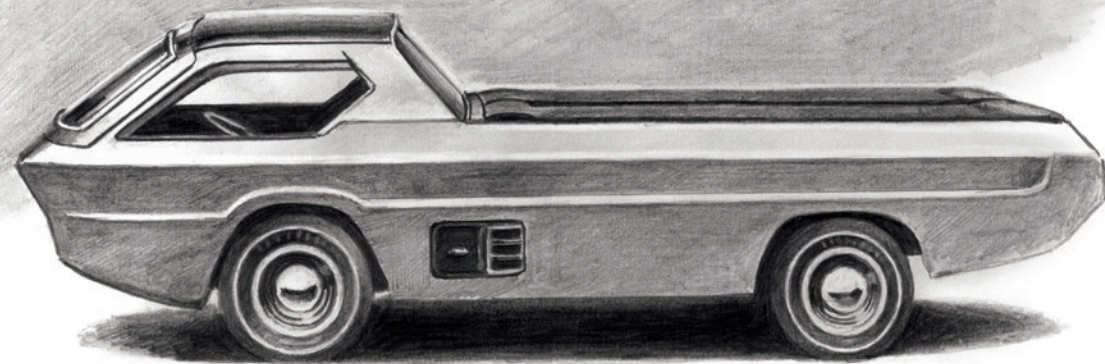
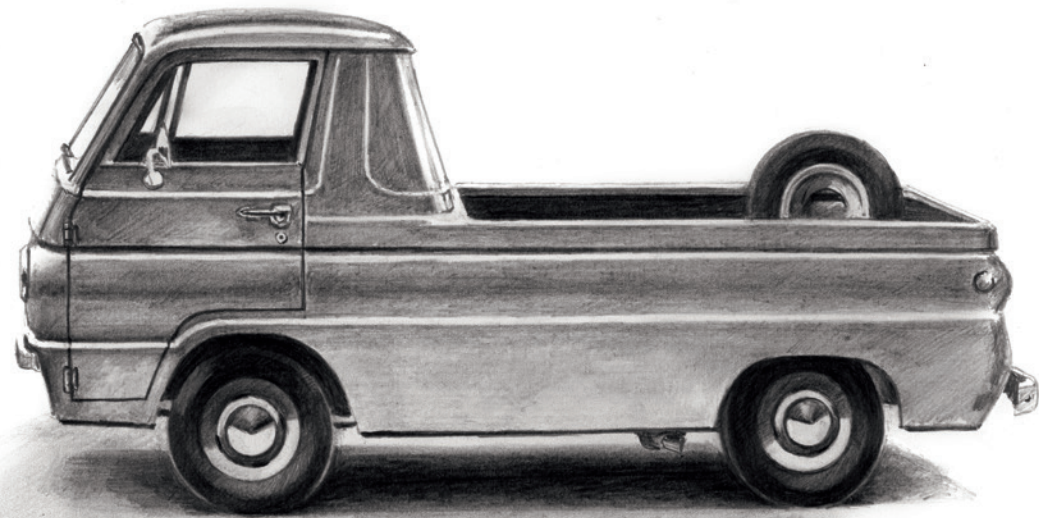
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INTRODUCTION

If a thing is known, it's usually because it's the largest, fastest, strongest, most expensive, or smallest around, depending on the circumstances. It's easy to remember, people talk about it often, write books, shoot documentaries, or even award-winning feature movies. Every one of you certainly knows of such a thing, and maybe it's a means of transport.

Some means of transport, though, aren't the best at something or featured in a movie, but they do play a role in our life without us realizing it. Buses, trains, ships, planes, cars which aren't record-holders but can be relied on. Every day they push our world forward, making sure it never stops moving.

And then there are means of transport people talk about once in a while and which sometimes appear in movies, documentaries, or books. But you never actually see them on the road, either because they don't exist, or because they didn't prove their worth.

Take the remote control car, for example. Perhaps you have a toy version at home you used to play with. But imagine what it would be like if your parents had a life-size version. You'd sit in it and they'd use the remote control to drive you to school and back home again. If you think about it, there are many holes in this idea, in fact it may be a complete nonsense, but we definitely aren't the first ones who formulated it. It has popped up in many smart heads, and many pairs of skilled hands actually built it, though it was never driven by regular people.

In 1925, for example, one such car was presented to the public. Francis Houdina wanted to show off his invention, and so the remote control car set out into the streets. It looked as if driven by a ghost and scared the onlookers. And unfortunately they remained scared because the car headed straight for them, causing quite

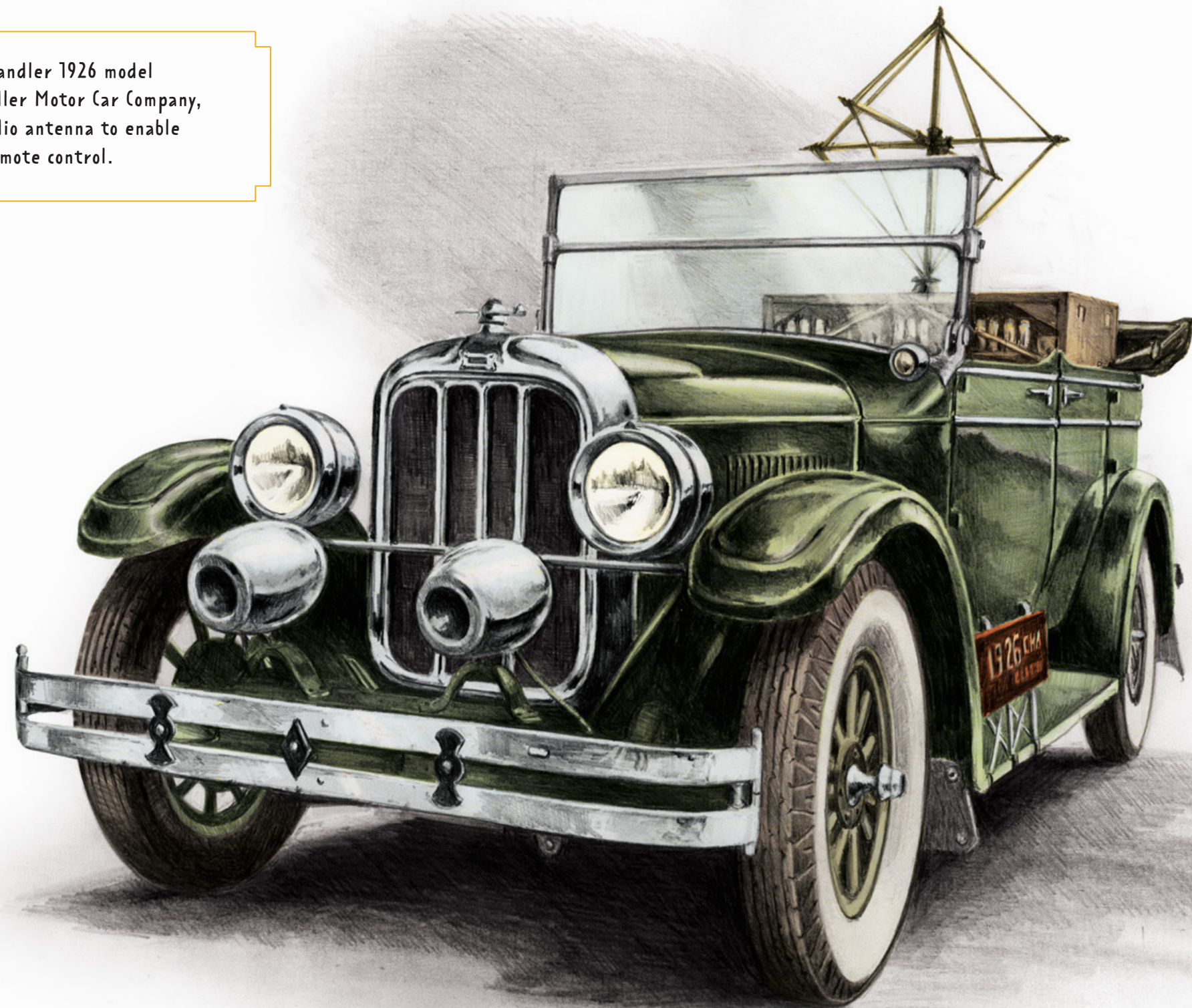
a stir in the streets of New York. Francis Houdina was recommended never to try anything like this again. The famous escape artist Harry Houdini also caught wind of the accident, got angry because the company's name resembled his, and smashed the inventor's office. Which is strange considering the famous illusionist borrowed the name from the magician Jean Eugène Robert-Houdin.

The Chandler 1926 model
by the Chandler Motor Car Company,
with a radio antenna to enable
remote control.

Some claim none of it matters because the argument was staged as a marketing gimmick to draw attention to the cars in other ways than by causing the public to panic.

A movie-worthy story, you might be thinking. Sadly, we bet this is the first time you've heard of it. Some things and people are too unfortunate and are descri-

bed as average, forgotten, unsuitable, expensive, or the smallest, depending on the context. And it's these means of transport we've decided to tell you about.





MOVING WALKWAY

Standing still and letting yourself be moved around by a pavement, to the other end of the city and then back again. Your feet don't hurt, you're nice and comfortable, free to admire the city around you. It's quite common today and you can stumble upon moving walkways at just about any airport, but imagine it's 1900! Both personal and public transport are in their diapers and all of a sudden you're confronted with a moving walkway. Where? In Paris, of course! This grandest convenience among conveniences was installed there as a part of the World Fair. Some relished in riding the pavement, seen by the then engineers as the future of mass transport, while other were too afraid. Just imagine getting off from a platform and onto a moving belt, with no stops, and having to jump off again. And what if you wore a long skirt or elegant suit? At first you'd need to jump on a slower walkway that moved at 4 km per hour, and after that on the faster one which sped forward at the astonishing 8.5 km per hour. Those who were really trembling with fear clung to posts while the braver ones increased the speed by walking forward. Ground-breaking and entertaining but the joy of riding through Paris on a moving walkway could be enjoyed only in the first year of the 20th century.

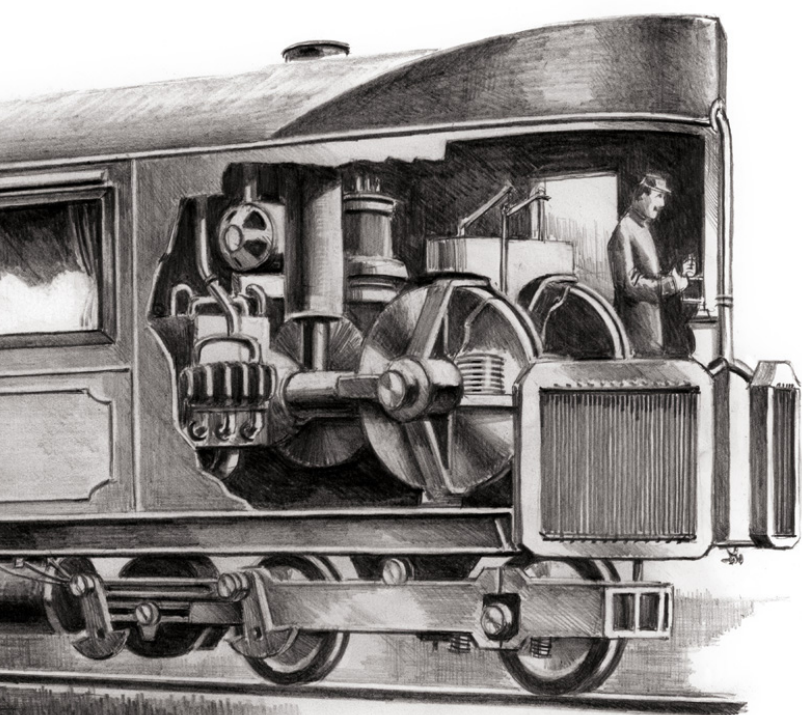
Moving walkways were put to use much later, for example in department stores or at airports.



BRENNAN'S MONORAIL

If you're one of those people who prefer four wheels to two since you find the single-track design too instable and illogical, get ready for something that will blow your mind. It's entirely common and by now not exactly noteworthy that trains use two rails but have you ever heard of a single-rail train?

Once upon a time it seemed like the greatest idea in the world. Engineers began thinking about developing a fast one-wheel train which would be able to quickly negotiate turns, and set about actually making it. If your dislike for two-wheel designs was caused by a bad fall from a bicycle, rest assured that the monorail, as such trains are known, was able to straighten up after tilting,



and could remain straight and safe even with a single wheel, thanks to something called the gyroscope—an invention designed to keep the train upright.

In fact, the design was being independently perfected by two engineers whose creations went on to delight the hearts of those lucky few who rode them. One of the best-known prototypes—Brennan's Monorail—inspired much more modern projects, also based on the idea of a single-rail train.

As you may have noticed, despite their obvious advantages monorails aren't exactly common—unlike the typical double-rail train. Why? Money. Gyroscopes were just too expensive to be put in regular use. Moreover, many tracks would have needed to undergo costly, complex re-construction. After all, they were originally built to serve traditional trains. But don't throw in the towel just yet! The monorail's time might still come—perhaps in the far future... For now, the whole idea seems too crazy. Just ask the people living in Brockway, Ogdenville, North Haverbrook, or Springfield.

What is the flywheel?

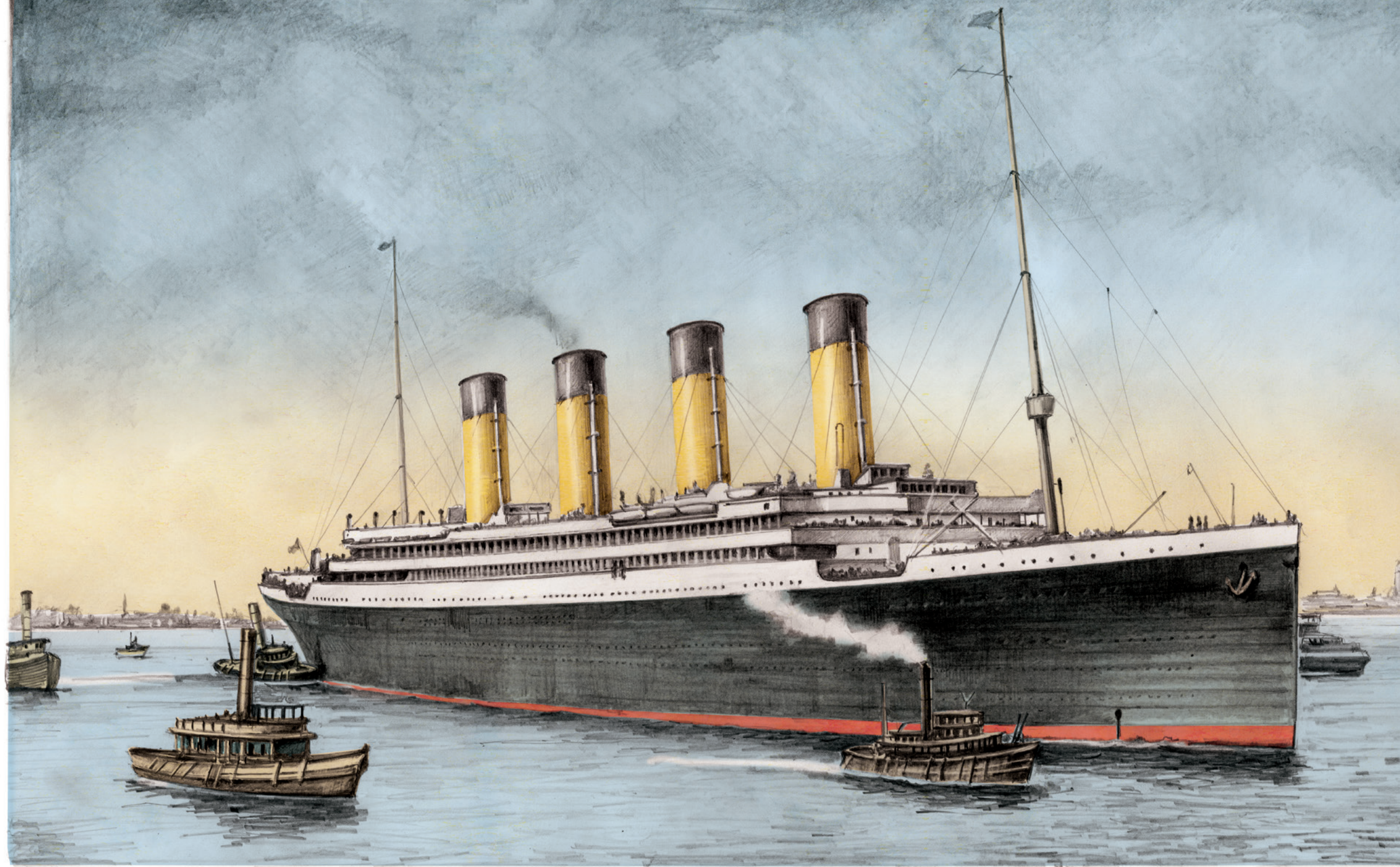
The source of the mysterious energy behind the gyro monorail was two counter-rotating flywheels fitted to the chassis, close to the central axis, with one wheel at each side. These double flywheels, powered by electric engines, kept the cab stable by resisting any disturbance.





RMS OLYMPIC

Many European families viewed transoceanic voyages as an opportunity to secure a rosy future and leave their crisis-ridden countries for the land of opportunity—the United States. The three ships of the shipping company White Star Line could also be seen as a family. The most famous one is no doubt the Titanic whose tragic end is forever tied to seafaring and is one of the greatest tragedies of the last century. Even the Titanic’s younger sister, the Britannic, ended tragically. It was originally named the Gigantic, referring to the race from Greek mythology, but once the Titan (Titanic) fell, it was renamed though the new name didn’t bring its bearer much luck either. The Britannic wasn’t a luxury transoceanic ship but a floating military hospital. WWI changed many a plan and life and the ship met her match in the form of a naval mine. But the oldest and least-known member is the steamship Olympic who brought no shame to the Titanic in terms of size, though it also didn’t escape the family curse. During its fifth voyage, it crashed into the cruiser HMS Hawk and the damage was so severe it even affected the construction of the Titanic as the Olympic got the former’s original screw propeller. Sadly, the crash was the Olympic’s fault which had a negative effect on the White Star Line’s finances. Just like her younger sister, the Olympic had to join the war. She survived and even managed to sink the German U 103 submarine, saving the lives of 9000 U.S. soldiers. Unfortunately, as tends to be the case with veterans, the post-war era brought the ship no glory and in 1935 she was sold for part. You can encounter fragments of her interior displayed in British restaurants and hotels. And so ends the story of the three sisters.



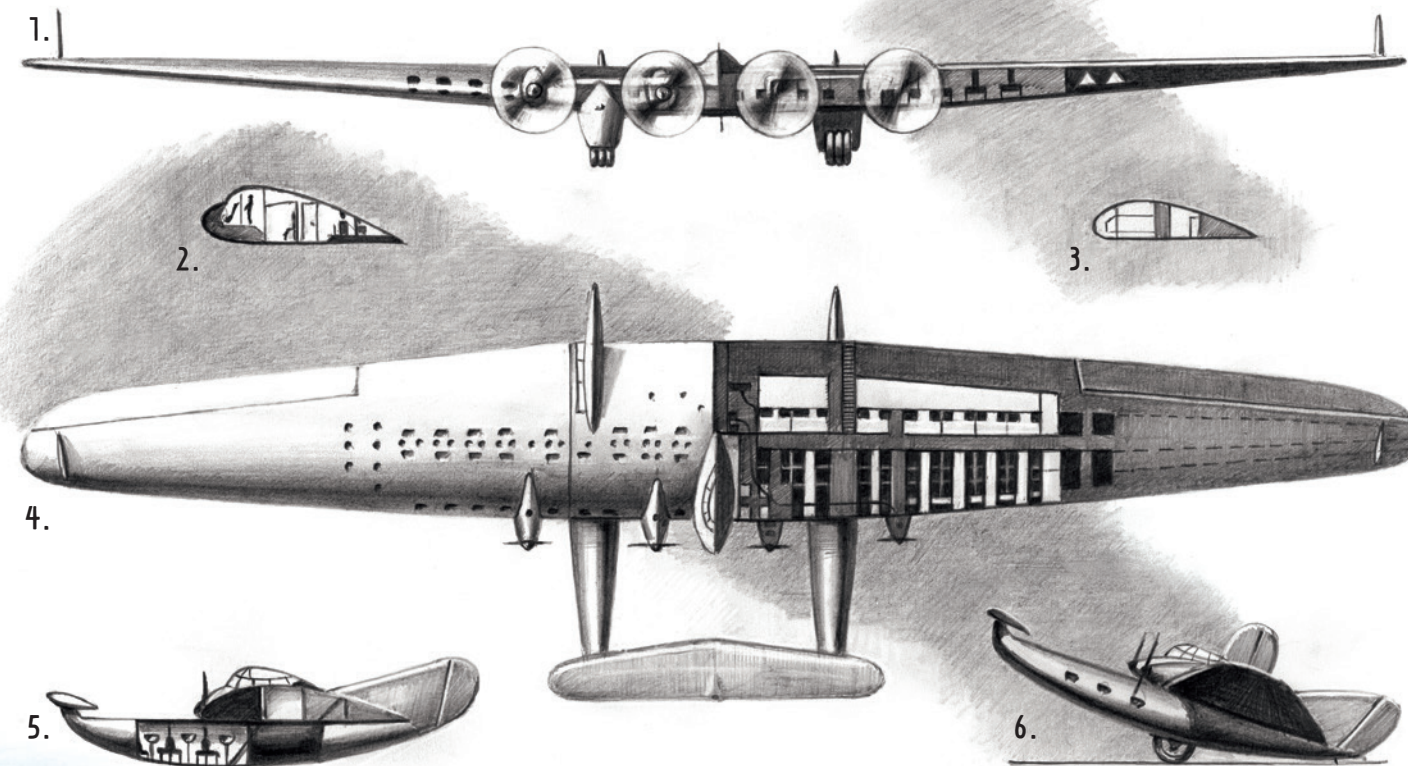
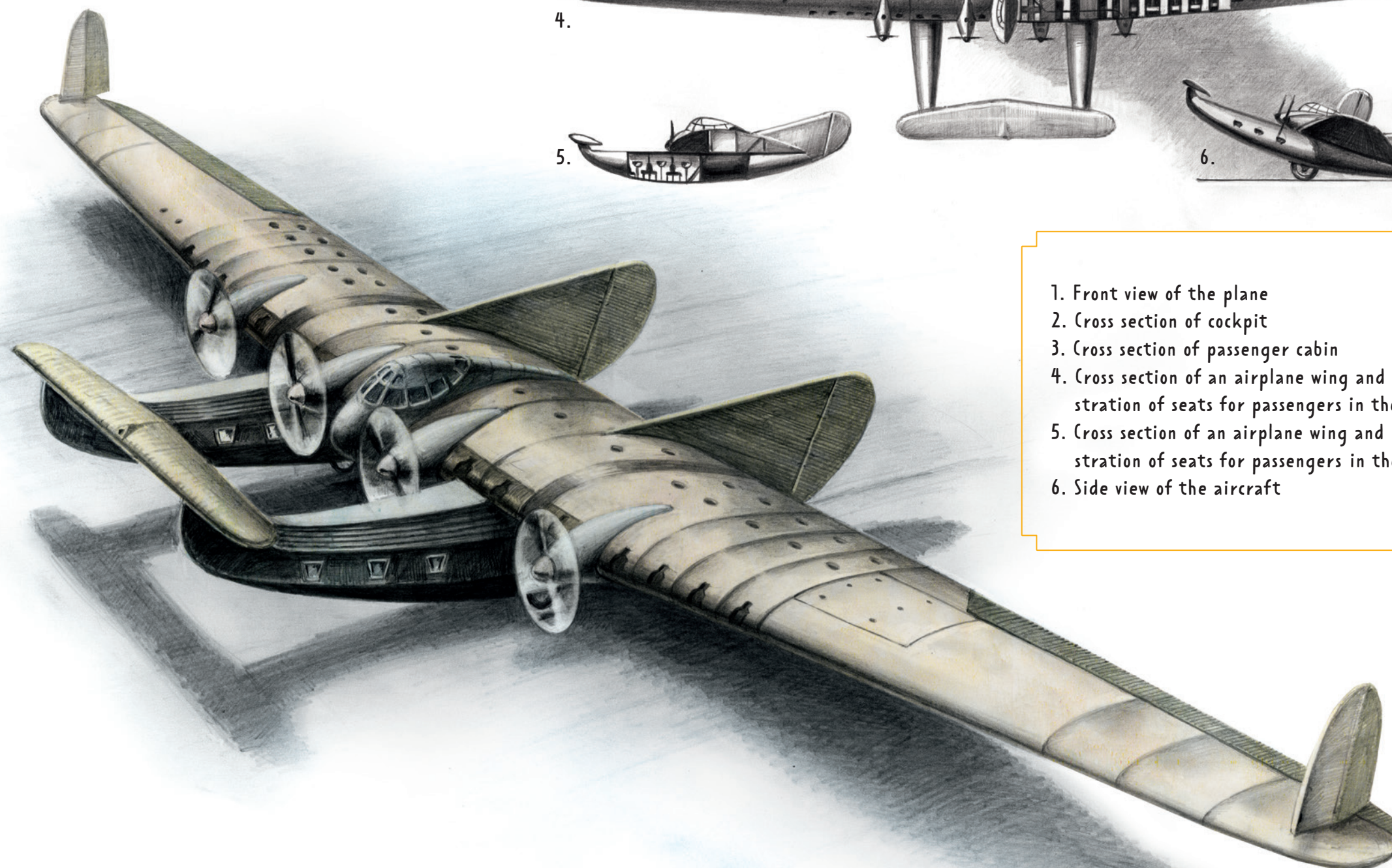
← During the war, the ship’s design was adjusted so that it’d be impossible to tell how far it was and at what speed it was moving, making it harder to hit.

JUNKERS J1000

Hugo Junkers (1859–1935), a famous German technician, excellent aircraft designer, and successful entrepreneur, wanted to develop a special transatlantic airplane used specifically for flights to the United States. He'd already had the world's first all-metal plane under his belt—the Junkers F13—so why shouldn't he succeed in making a huge transatlantic plane? He sat down at his desk to draw, calculate, and design and with the help of Otto Mader invented a truly futuristic machine—one with a double fuselage connected by a pair of robust wings. The main huge wing could fit cabins and even bedrooms for 80–100 passengers and 10 crewmembers. 12 cabins for six and 14 cabins for two. The seats were designed in such a way as to make them easy to turn into beds. Hugo Junkers expected the incredible aircraft to be spending up to ten hours in the air without landing, which made the comfort factor of paramount importance. The main wing also contained a generously spaced hold. The fuselages functioned as a dining room and a lookout area. The plane of the future had four engines and a retractable landing gear.

Hugo Junkers' design was ahead of its time by several decades. But as tends to be the case with ground-breaking inventions, they aren't always fully appreciated. American investors weren't interested in the Junkers J1000, and so the transatlantic project was never implemented, though some of its design features were later incorporated into other planes.

The plane was huge even by today's standard. In comparison, the wingspan of the famous Boeing 747 is 20 cm shorter.

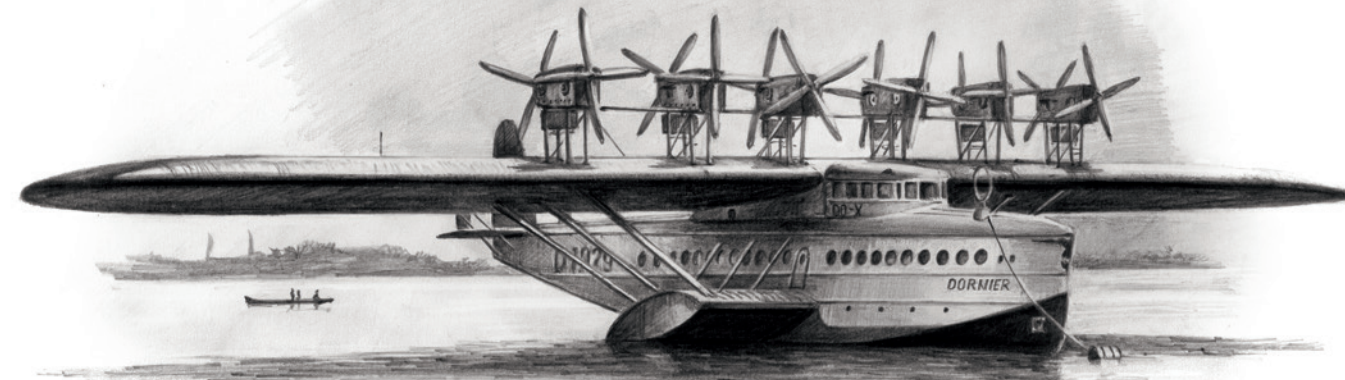


1. Front view of the plane
2. Cross section of cockpit
3. Cross section of passenger cabin
4. Cross section of an airplane wing and demonstration of seats for passengers in the wing
5. Cross section of an airplane wing and demonstration of seats for passengers in the wing
6. Side view of the aircraft

DORNIER DO X

What is it, the thing that's floating up in the air? An aircraft the likes of which the world has never seen. Wait, it's not a plane, actually. It's a huge boat with wings. This may have been the excited whispers exchanged in the early 20th century by those who watched the test flights of Dornier Do X, a German flying boat. At the time, it was the largest and heaviest vessel whose gigantic deck could accommodate almost one hundred passengers and fourteen crewmembers. To make sure no one would get bored during the long journeys, the engineers gave their gigantic hydroplane some truly astonishing furnishings—three decks, bars, restaurants, and areas for gentlemen to enjoy their afternoon cigar. If you got too tired, you could simply tilt your seat back and turn it into a comfortable bed. The heavenly giant was constructed in 1929 and soared up in the sky exactly 103 times. It came to light that its engines were too weak to carry the boat's exceptional weight—28,250 kg with no passengers—, plus they regularly overheated and were only able to lift the machine 425 meters above the surface. So the designers added more powerful motors, allowing Dornier Do X to rise much higher and cross the Atlantic Ocean. Wonderful! Hurrah! Calm down, my friends. During one of a test flights over German cities, or rather while landing by a Passau lake, the gigantic boat suddenly lost its no less gigantic tail. And so ended the famous career of a luxury sky vessel that never really got off the ground. Infamously, once and for all...

Wingspan: 48 m
Length: 40 m
Height: 10,25 m
Top speed: 211 km/h

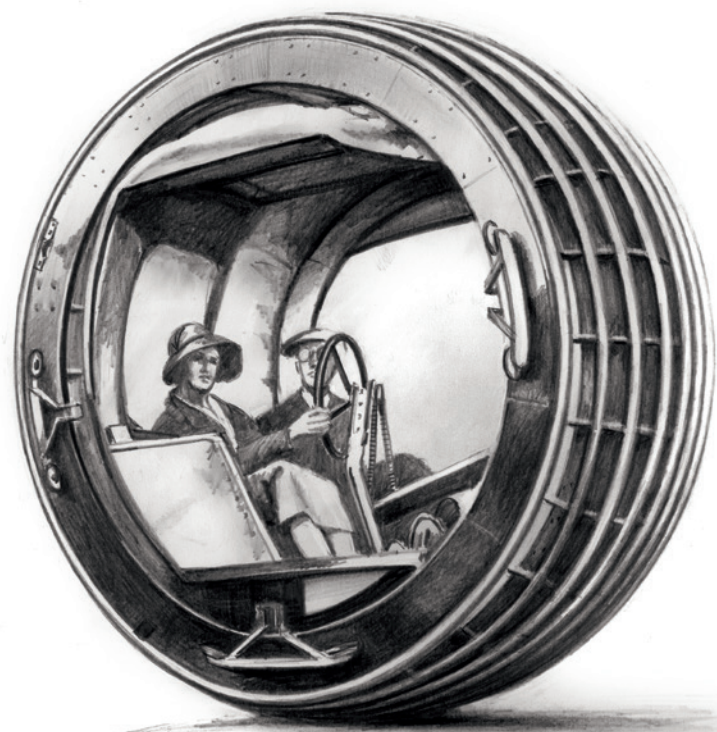


Dornier Do X while arriving in New York

DYNASPHERE

Heelp, there's a huge tyre speeding on the road! Jump aside or it will run us all over! Don't worry, though, this 3 m, 450 kg wheel didn't break loose. Take a closer look and you'll see a driver sitting inside, in full control of everything. It was the 1930s and the budding car industry found itself setting down a road which would take it to an eventual boom. Truly the best time to give many different ideas a try, including a prototype by the British electrical engineer John Archibald Purves who was inspired by the drawings by the genius inventor

Leonardo da Vinci and created a bizarre Dynasphere, nicknamed Jumbo. The unusual tyre-shaped vehicle with ten metal rings arranged next to one another was believed to have a bright future ahead, among other reasons because the moving metal structure could maintain a significant amount of power with limited engine use. But the Jumbo had one disadvantage, namely its low speed—you couldn't get very far at 48 km/h. The complicated controls didn't make the monowheel popular either. The driver had to sit on a small seat inside the wheel, pressing on pedals with their feet to change gears and reverse, but the only way to negotiate a turn was to lean out in the direction in which they wanted to go. Not exactly comfortable, right? And so, although Archibald Purves made two types of the Jumbo, one running on petrol and the other on diesel, and even though he did all he could to fine-tune these unique vehicles, the Dynasphere never made it in the car industry and is viewed today as a peculiar goof.



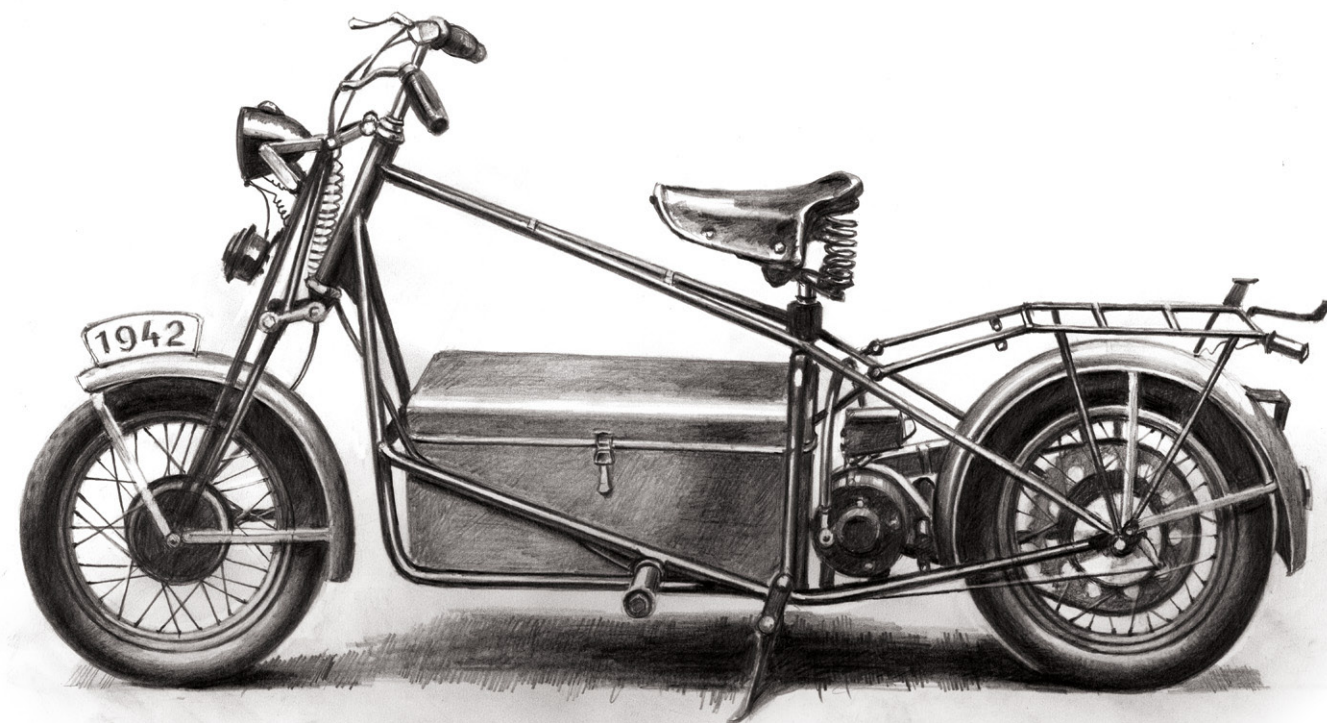
J. A. Purves' dynasphere,
driven by Charles Eric Purves,
the doctor's son.

The press called
the dynasphere the car
of the future.

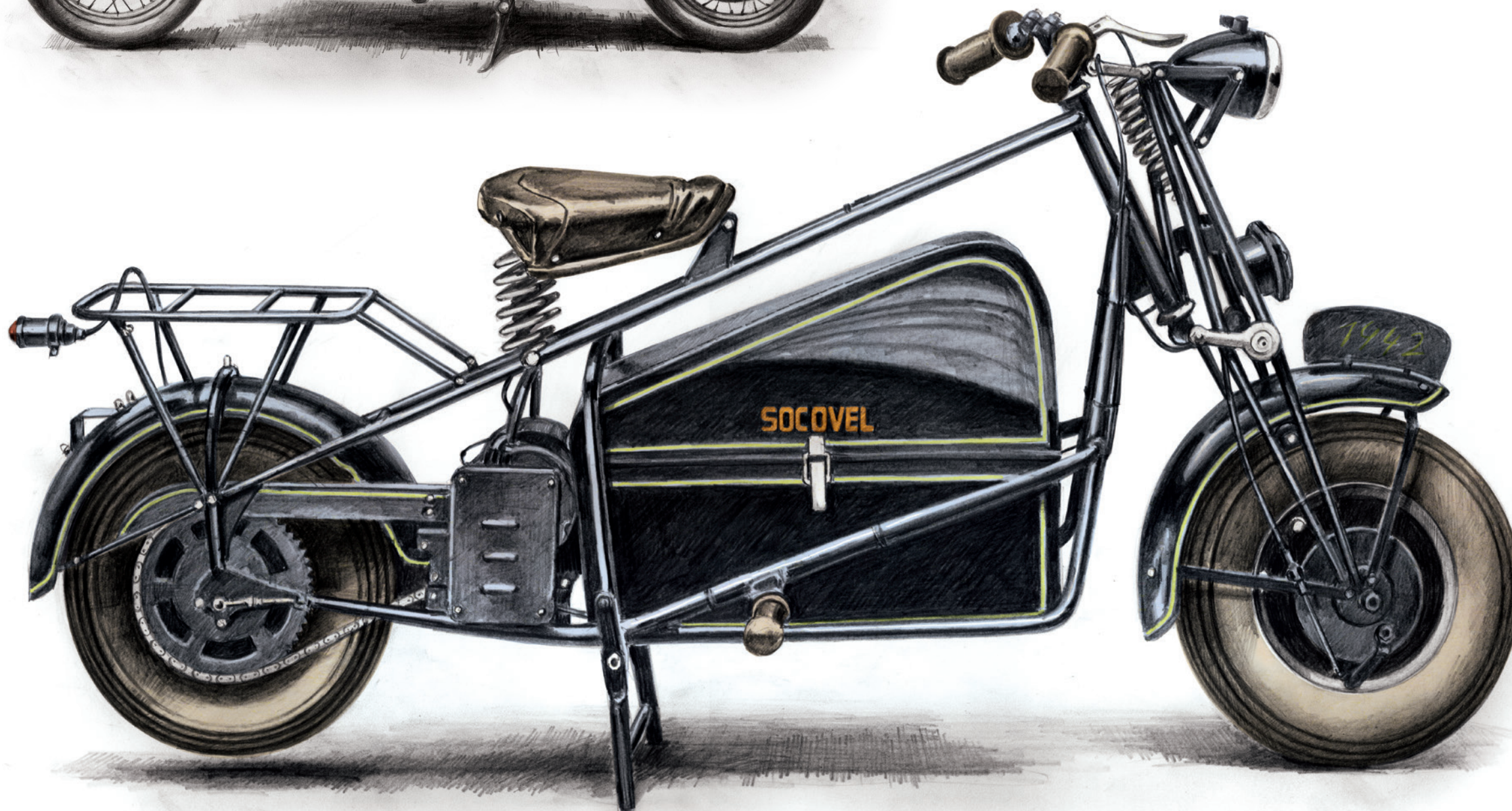


SOCOVEL 1942 ELECTRIC MOTORCYCLE

It's said that every cloud has a silver lining, and sometimes that's true. Like in the case of Maurice Limelette who was lying in a hospital, recovering from a serious car crash. And because he was getting bored and had founded a Brussels Society for Studying and Constructing Electric Vehicles (Socovel) with his brother, and because fascination with motor vehicles didn't leave him even after the terrifying encounter, he came up with a prototype of the electric motorcycle. Since the world was being ravaged by war at the moment—WWII, in fact, which led to petrol shortages and rationing—electric vehicles were a way out of the mess. The design of an electricity-powered motorcycle immediately captured the attention of Germans who allowed the brothers to make whopping 500 pieces of this miracle. The electric motorcycle was met with enthusiastic support from the general public. Although it was prohibitively expensive—the brothers were buying the parts from different companies—400 of the bikes were sold in 1942. But then the German army set its sight on them. The light bikes with a top speed of 25 km/h, range of 50 km, and ten hours of charging time would have been useful at airports as transport vehicles. The brothers didn't feel like collaborating with the occupiers and enemies of their country, and so they refused to comply. Finally, peace came and with it enough petrol. The enthusiasm for expensive electric motorcycles began dropping steadily. In the early 1950s, the Socovel company still had 80 military motorcycles left in its warehouse. What to do with them since no one was interested anymore? Scrap them, thought the brothers, and that's what they did...



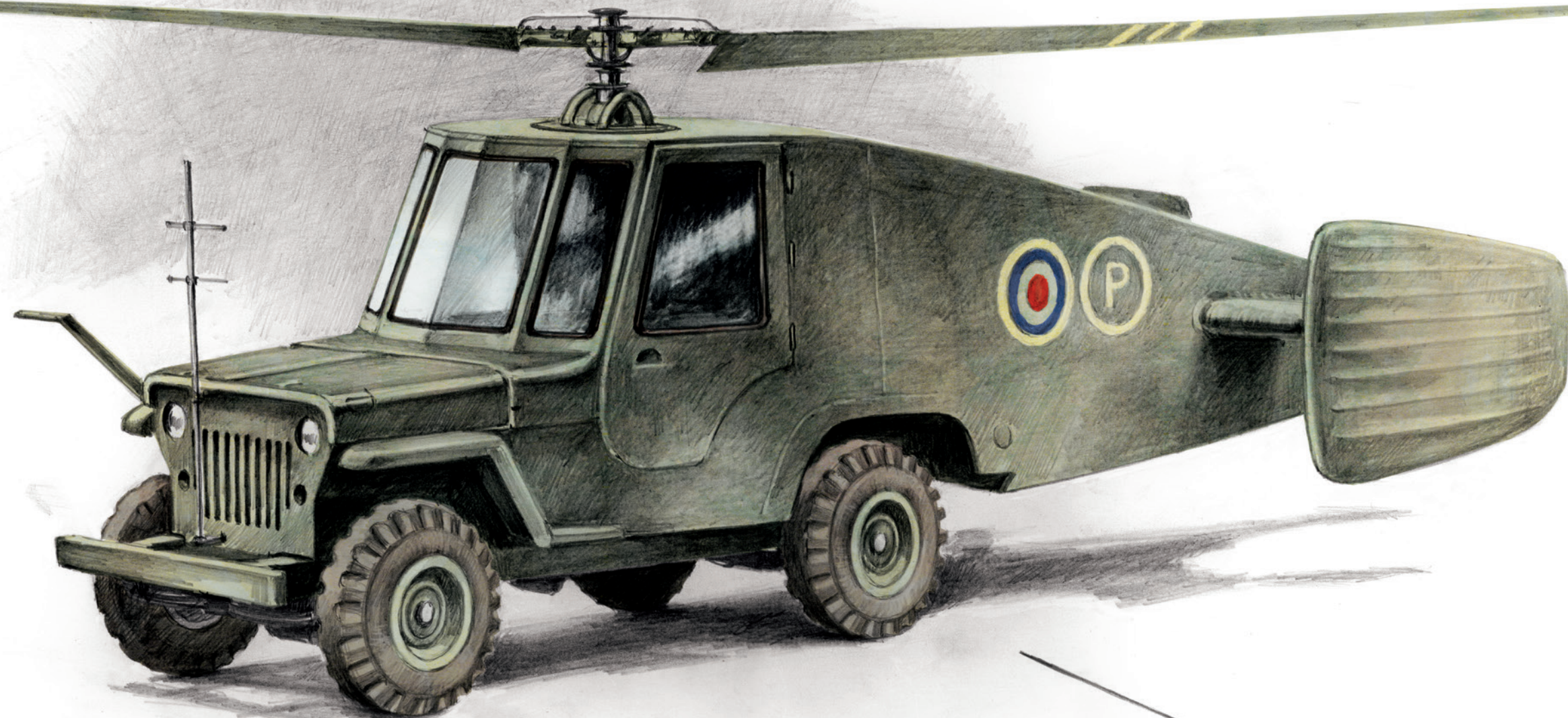
The motorbike's original design



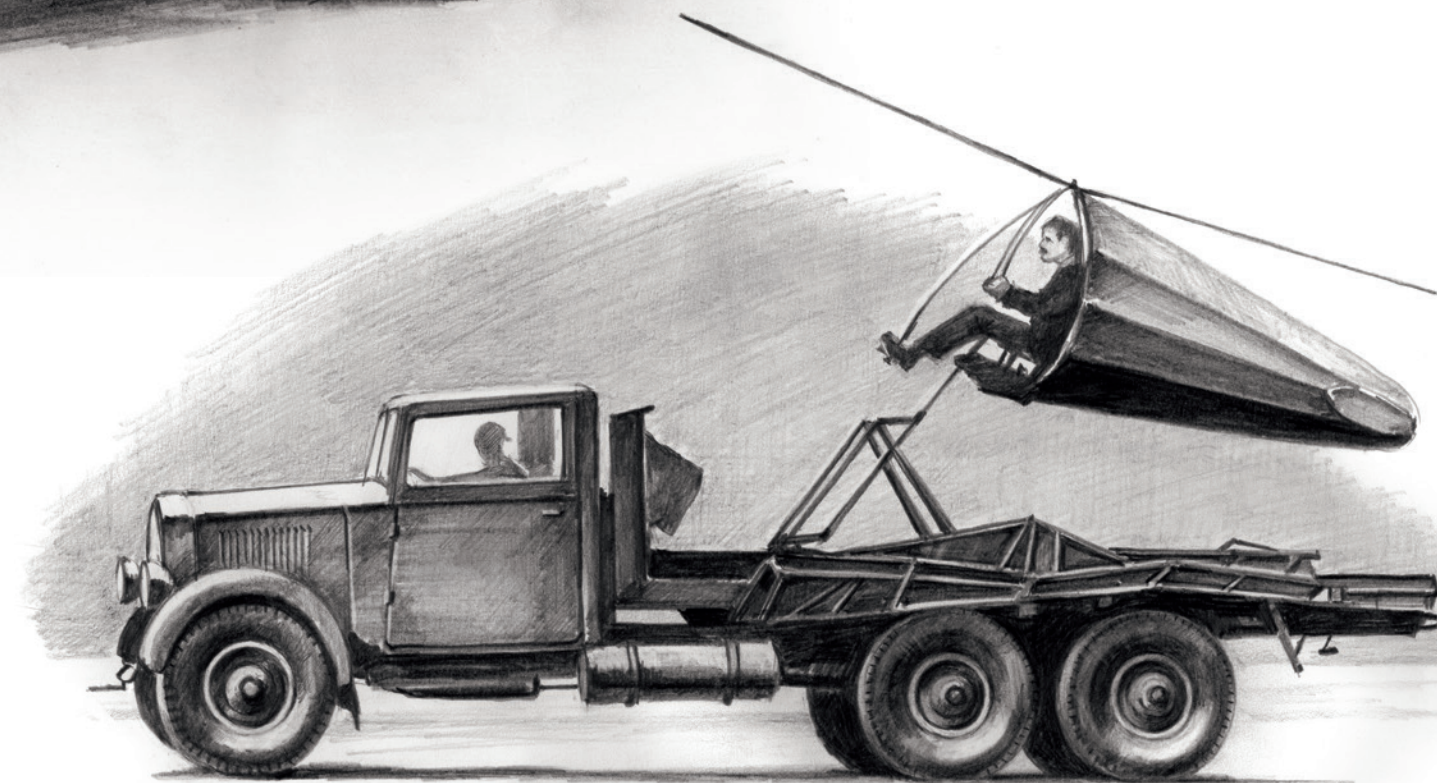
The current, restored design

HAFNER ROTABUGGY

The difficult WWII era seemed to light the fire under engineers, designers, and scientists, make them want to put some elbow grease into it and figure out something that would help people survive these crazy times. And so, with limited funding, these smart people did all they could and were coming up with timeless prototypes, one of them being the Hafner Rotabuggy—a flying jeep. British army engineers wanted this vehicle to be able to fly—yes, you read that correctly—just about anywhere if necessary, quickly and without wasting time on the road. Upon arrival, soldiers were to use it like they would any other off-road vehicle. Once required somewhere else it'd spin its propeller and wheel, be off and fly to another unit before the company could say anything. This practical army hybrid was authored by Raul Hafner, a technician working for the British air force who had already made a proposal for a single-seat glider. The Hafner Rotabuggy was based on the concept of a glider. In order to take off, it needed to reach its top speed but as revealed by the first test, conducted on December 16, 1943, the test freight vehicle couldn't do that. On December 27, 1943, though, the test succeeded and a 4.5 l engine Bentley rose to the sky. Hurray! Easy with the happiness, though. Once the vehicle went over 72 km/h, its robust body began shaking uncontrollably, forcing the driver-pilot to land. But Raul Hafner didn't give up, kept working on the Rotabuggy and perfecting the design. The final test flight took place on February 1, 1944 and was very successful. But... it was too late. There wasn't any interest in the flying jeep anymore. In the meantime, other smart engineers had developed gliders that could easily transport military vehicles to wherever they were needed...



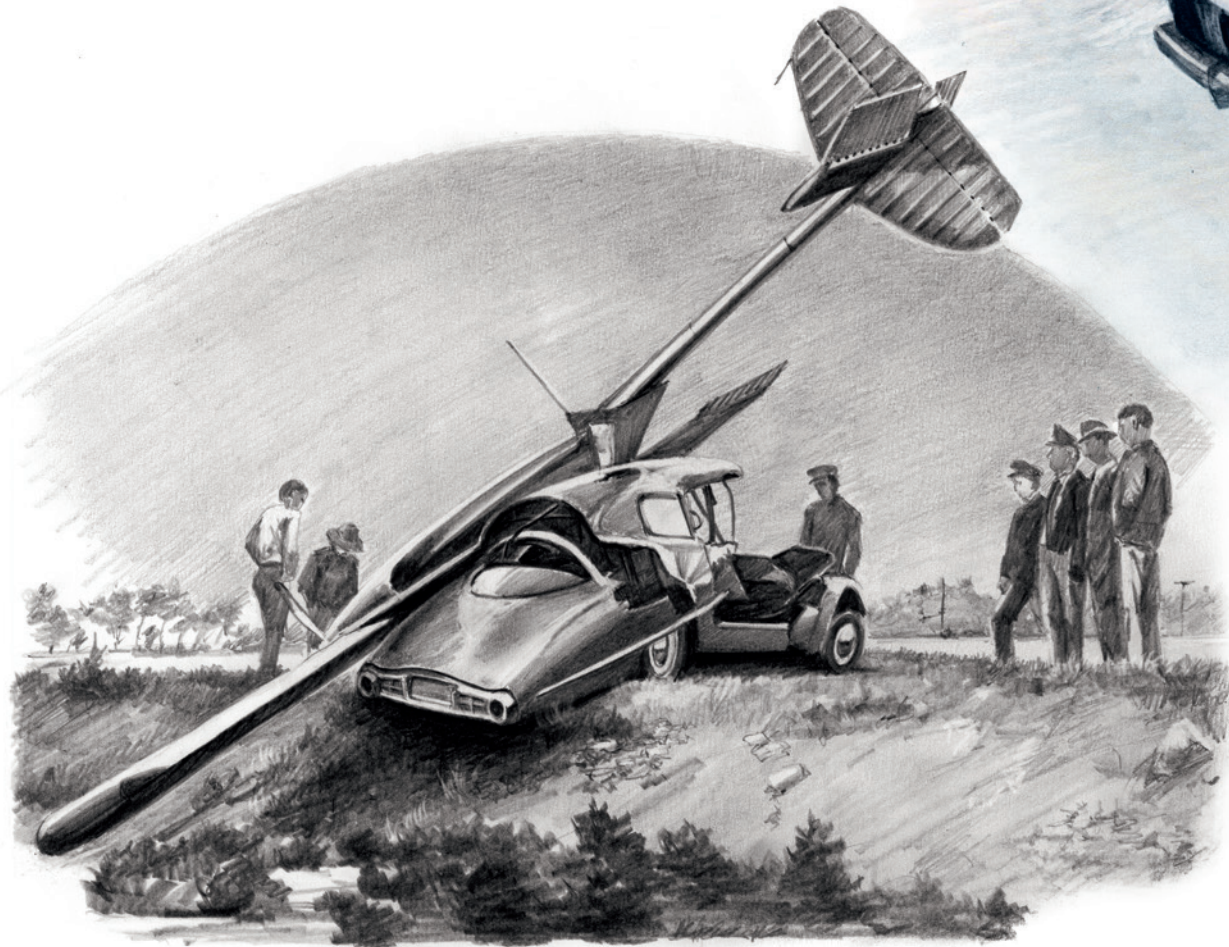
Raul Hafner also proposed a rotachute to help soldiers land at the exact spot of their choosing. But it was never widely used.





MODEL 118 CONVAIRCAR

Imagine a car that's going about its business when suddenly the driver comes to the conclusion they need to step on it or that there's a really bad traffic jam ahead, and so they take off with the car and fly away. A song from the future, you say? Impossible? Quite to the contrary. Enthusiastic car engineers have been trying to design such a multipurpose vehicle since the early 20th century. Some tried to attach wings to the car while others focused on developing a plane that'd fold its wings upon landing, allowing it to drive on roads. The post-war era, especially, had no shortage of these



experiments. It was also then that two Americans, named Theodor P. Hall and Tommy Thompson, introduced the Convair 116, a winged two-seat vehicle. It was in 1946. After 66 test flights the two gentlemen decided to perfect the design since now they knew how to go about it. And so a year later the world was blessed with a fine-tuned, technologically perfected model—the Convair 118. Fans of planes and cars alike rubbed their hands together. Everything suggested that the multi-purpose vehicle would go into mass production. If only... if only Theodor Hall and Tommy Thomson had been lucky

enough not to have to perform an emergency landing during the very first test flight. And the reason behind this unexpected failure? A dumb mistake. Although the car's fuel tank was full as it should have been, the plane's was not... Unfortunately, the rescue manoeuvre damaged the vehicle quite a bit. Hall and Thompson got down to business, repaired the excellent flying car, and turned it into another model. In vain, as it turned out, because people lost interest in combining driving and flying. And so the ground-breaking project was forgotten by pretty much everyone.

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FAIREY ROTODYNE
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M-497 TURBOJET TRAIN
1966



THE DALE CAR
1975



NASA X-38
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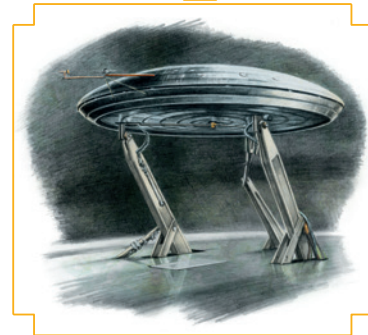
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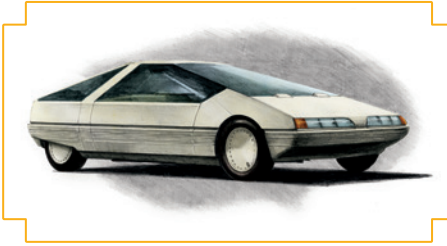
KINEO 27
1991



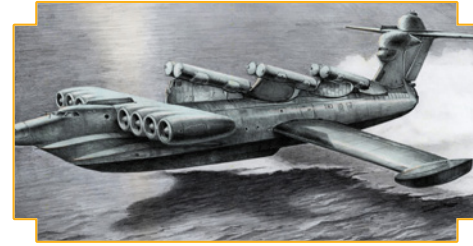
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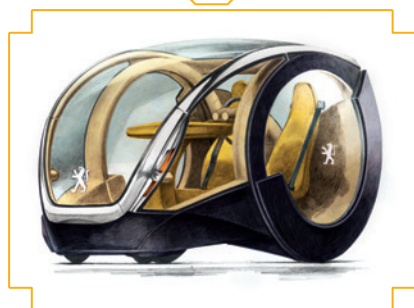
DODGE DEORA
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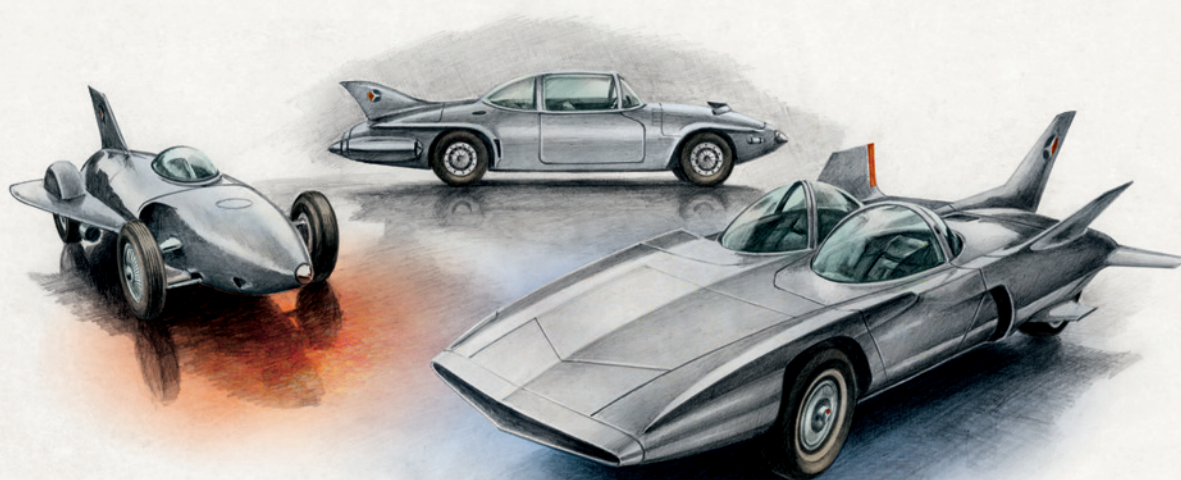
FOLDING SCOOTER
1981



PEUGEOT MOOVIE
2005


MEANS OF TRANSPORT THAT *ALMOST* CHANGED THE WORLD

Written by Štěpánka Sekaninová & Tom Velčovský



Illustrated by Martin Sodomka

We all travel sometimes—by car, public transport, or plane. But there are some means of transport we completely ignore. Let's crack open this book, wonderfully illustrated by Martin Sodomka, and learn how come we don't travel in flying cars, why trains don't ride on a single rail, or why there are no life-size remote control cars! You're about to be flooded with infamous ideas, prototypes, and crazy attempts at coming up with something new over the course of the last century. The means of transport presented in this book may have not led to a technological revolution but did help us progress. After all, people learn from their mistakes.

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