Presents at the occasion of the EPCA-CEFIC exhibition organized from 4 to 7 October in the Mercedes World in Berlin dedicated to “Sustainable Cars, Chemicals as Part of the Solution”, a strip cartoon on Bertha, the wife of Carl Benz. This cartoon is part of ‘ENCYCLAUTO’ a strip cartoon series on the history of automobile.

The original ENCYCLAUTO series has been outlined with the esteemed assistance of former journalist and formula1 pilot Paul Frère and has been published in the original French version in Italy by

The English version of this strip cartoon has been published with courtesy of EPCA

**Carl Benz**

- 1844 Born in Muehldorf near Karlsruhe (Germany)
- 1872 Marries Bertha Ringer
- 1880 First two-stroke engine
- 1886 Granted a patent for his gas-fuelled automobile (N°37435)
- 1899 The largest car manufacturer in the world
- 1906 He leaves the company he founded
- 1926 Merger between Benz and Daimler-Mercedes
- 1929 Dies in Ladenburg near Mannheim (Germany)
At the end of his life, Carl Benz attributed his success to his wife. This story relates one of the many exploits of Mrs Benz, but first, a little historical background is needed.

1844 Fatherless, Carl owes his education to his mother whose own father was killed in the Napoleonic campaign in Russia. She lived just long enough to see her son graduate as a mechanical engineer from the Karlsruhe Politechnikum.

1872 Married to Bertha Ringer, he opens his first machine tool workshop at Mannheim: the Carl Benz & August Ritter Werkstatte. With financial difficulties, Carl often needed his wife’s help in the workshop. Devoted, she even worked the treadle of her sewing machine to charge her husband’s batteries: the spirit of cogeneration in its infancy!

1879 For a long time, Carl had wanted to improve on the patented 4-stroke internal combustion engine of N. Otto. He focused on a 2-stoke design. About to give up, Bertha persuaded him to make one last effort for New Year’s Eve: this time it worked.

1883 He made a fresh start by forming a new company with Max Rose and Friedrich Esslinger under the name of Benz & Cie Rheinische Gazmotorenfabrik.

1884 Carl’s associates wanted to focus on the stationary engine, recently prized at the International Exposition of Antwerp. Building his dreams alone after work, Carl Benz created each piece of the first gasoline powered automobile – which ran on 3 wheels (borrowed from his tricycle).

1885-1886 N. Otto’s patent was revoked – to the profit of Carl Benz and a certain Gottlieb Daimler. The two men live 100km apart, have similar ideas, but don’t know each other. Daimler focuses all his attention on the ‘universal engine’. Cars being just the application or pretext to use the engine in as many ways as possible: his 1885 four wheel car was in fact a stagecoach with sawn-off handles and installed with an engine. For Benz the totality of the vehicle was important: submitted on January 29, his patent to the world’s first motor-propelled automobile was validated in November. Today, every German mechanical engineer knows the patent registration number.

1888 His associates think that Carl is taking his time and their money to perfect the BENZ PATENT WAGEN. They don’t realise that at least three new concepts are being developed: Water cooling radiator, Mechanically guided valves and Electric ignition. As for Bertha Benz, she was frustrated at the lack of public interest, which saw her husband’s invention as a useless curiosity with no future. She decides to un-robe the TYP III, the 3rd version of the 3-wheeled car, in a publicity stunt…
MAUNHEIM, AUGUST 1888
WALDOHOF STREET AT DAWN...

BE QUIET
DON'T WAKE YOUR FATHER.

LET'S GO, EUGENE,
START UP THE ENGINE.

100 KM TO GO BEFORE
WE GET TO UFORDHEIM,
RICHARD.

HURRAY
WE ARE GOING TO GRANDMA'S.

THE HISTORICAL EVENT STARTED OFF IN
FRONT OF THE PALACE: THE FIRST JOURNEY OF
THE INTERNAL COMBUSTION ENGINE AUTOMOBILE
WILL FATHER WORRY?

NO, I LEFT HIM A NOTE. HE WILL THINK HE TOOK THE TRAIN AS USUAL... AS LONG AS HE DOESN'T GO INTO THE GARAGE!

HOW ABOUT YOU, RICHARD, ARE YOU WORRIED?

DAD'S A WONDERFUL INVENTOR, ISN'T HE?

WITH NO MAP, BERTHA DECIDES TO FOLLOW THE RAILWAY TRACKS.

IN THE COUNTRYSIDE, PEOPLE WAKE UP EARLY AND GET A BIG SURPRISE...

DID YOU SEE A HORSE?

NO, WITH WOMAN COACH-DRIVERS, ANYTHING CAN HAPPEN.
Ladenburg, having watched her husband in the past, Blatha decides to make a first stop.

Through the beautiful countryside, they pass the Neckar, to enter Heidelberg.

Not a drop of petrol left! She drinks more than I thought.

Don't worry we'll pump her.

Over zoom.

How much further to Wilschbach?
Eugene can't remember the name of the product he bought with his father at the pharmacist.

Eugene tries to remember...

Herr von Hohenheber explains the situation and tells Eugene he'll need several liters.

Eureka! A bottle of liqour. Do you have any more here anywhere?

When Dad gets famous, we'll call it benz-ine; it's easier to remember.

Let's go and check the stock, my dear.

Without knowing it, the apothecary of Wiesloch inaugurated the first petrol station in the world by selling a solvent. For a few pennies. Once governments got involved, it would get more expensive!
NOT SO FAST!

SORRY THE BREAKS HAVE GONE!

THE FRONT WHEEL IS WOBBLING

TRAVELLING THROUGH THE VILLAGES WAS NOT ALWAYS PEACEFUL. IN THE LAND OF GOETHE, DUST, SMOKE AND NOISE MAKES ONE THINK OF MEPHISTO.

All the way to Bruchsal, Eugene tried to soften the infernal noise of the chains by applying oil. It is high time to find some craftsmen.

Dear Blacksmith, please repair the chains, and you, dear cobbler, could you replace the leather of the break block.

No Problem, Fraulein!
IN THE KRAICHGAIU COUNTRYSIDE, FAR FROM CRAFTSMEN, EUGENE AND HIS MOTHER HAVE TO MANAGE ALONE.
FIRST CHALLENGE: BLOCKED PETROL PIPE

GREAT THING YOUR MAC DON'T... FOR DOING SUCH A Job WITHOUT HATPIN?

2nd CHALLENGE: THE IGNITION WIRE RUBBING AGAINST THE ENGINE BLOCK.

NOTHING BETTER THAN A SUSPENDER BELT TO ISOLATE A SHORT CIRCUIT.

TELL ME MOTHER, IS A LADY'S WARDROBE MORE USEFUL THAN A TOOLBOX?

WILFREDINGEN IS BATHED IN THE EVENING SUNLIGHT.
PFORZHEIM IS 20KM AWAY THROUGH THE VALLEY, BUT THERE'S A SHORT CUT...

THE MOUNTAINSIDE IS TO STEEP, FRAU BENZ. BEST STAY THE NIGHT AT 'KRONE' GUESTHOUSE.

PUSHING ON, OBVIOUSLY DANGEROUS, THEY DECIDE TO CLimb THE RIMME UP THE BLACK FOREST...
THE MINERS IN WILFLEIDINGEN WERE RIGHT: THE SLOPE IS TOO STEEP.

SURROUNDED BY MASSIF PINE TREES—THE MAJESTIC SITE AMPLIFIED THE DEAFENING SILENCE! WOULD WAGNER HAVEN PASSES THROUGH HERE? IS THAT PARSIFAL? NO! IT'S THE HAPPY CRIES OF THE NIGHT WALKERS THAT GIVE HOPE.
THE WINE-GROWERS: DON'T BELIEVE THEIR EYES ... DID THEY DRINK TOO MUCH WINE?

Could you give us a push? At the top the motor will start up.

Over the summit, happiness awaits! The lights of Pforzheim, now all we need to do is wake up the telegrapher ...

An Ing. Carl Friedrich Benz: We have arrived safely in Pforzheim, Signor ...
...the story continues after 1888

**1888** On receiving the telegram from Pforzheim, C. Benz responds tersely “Send chains urgently for Munich exhibition”. He wins the gold medal and decides to take part in the Paris exhibition.

**1889** In the shade of the sparkling new Eiffel Tower, he meets the man who will become his agent, Emile Roger. Upon his return, he continues to irritate his associates whom he replaces with Julius Ganß and Friedrich von Fischer. At the same time, engine sales are put into developing the automobile project.

**1891** The unveiling of the more stable four-wheel car, based on Amedee Bollee’s 1878 *Mancelle*, which had rear-wheel drive and independent suspension, became the archetype of success.

**1893** The *VIKTORIA* (and her little sister, the *VELO*) are considered the first automobiles suitable for mass production. Amongst the young mechanics engineers, a name to remember: Auguste Horch, the future father of HORCH and AUDI (from audire = latinisation of his name). These dynamic first production models were followed by IDEAL, DOS-A-DOS and MYLORD. C. Benz begins to be concerned by the potential dangers associated with mass produced cars affordable by many. He uses the invention of the Michelin brothers in a clever model called the CONFORTABLE: Leopold II, King of Belgium (picture page 2 under “1884”) ordered a luxury version of this royal car, modestly re-baptised DUC (=Duke). C. Benz personally does not like that much car racing and the increasing power of car engines. However he develops a mechanical marvel: the flat engine, which had *horizontally-opposed pistons*. These so-called *boxer engine* designs are still used today. His efforts are rewarded, and with over 500 cars a year, Benz becomes for a short time the first and the biggest mass produced car manufacturer of the century. Commercially, E. Roger had an important role: he imported Benz cars into France under the name ROGER-BENZ, in order to avoid some remaining sensibilities of those who had not forgotten the French defeat in 1870 at the hands of the Prussians.

**1904** Internal discord within Benz slows progress. Despite the PARSIFAL with a vertical twin engine and top speeds up to 60 kph (=37mph), sales collapse. Ganß is thanked and replaced by 24 year-old Hans Nibel.

**1906** Carl leaves the board of directors to produce more traditional models with his sons in Ladenburg, with short-lived success (C.BENZ SöhNE).

**1926** Under the leadership of H. Nibel, BENZ and DAIMLER-MERCEDES merge.

**1929** Alerted about the decreasing health of C. Benz, his admirers from all over the country paraded in their cars in a last tribute under the windows of the patriarch: he had two days more to live. Bertha passed away when she was 95 years old.
Explanatory Notes on Mannheim > Pforzheim Route

Mannheim: 200 years before American urbanism, in the time of Mozart (frequent visitor of this town), the centre was built of checkerboard (Quadratstadt). The Benz family lived here (quadrilatere T6 Number 11) before moving to Waldhofstrasse. The Palace, the largest of the country, was built in the XVII century by the Prince Elect Carl Philipp.

Road Maps: Popularized by Michelin at the beginning of the XXth century.

Railway tracks: Great invention of the XX Century: the train, which Bertha often used, was her only point of reference.

Ladenburg: The oldest city in Germany is surrounded by a fortress. C. Benz loved its conserved charm. He brought his family there on Sundays, and ended up living there. His house is now a museum with some mementoes and a tricycle. Because the area was well known by the Benz family, we have decided not to follow the option of many biographies who suggest a detour via Weinheim.

Radiator: Daimler was the first to use a “honeycomb” radiator.

Heidelberg: Romantic tourist attraction, the ex-capital of Palatinat is home to one of the oldest universities (1386) after Salamanca, Montpellier, Paris and Prague. Overlooking the city, the Castle holds the largest barrel in the world (200,000 litres) and dungeons for exuberant students.

Wheels: sensitive to holes in the road, the bicycle wheels of 1885 were replaced by artillery wheels. In Scotland, in the same year, John Boyd Dunlop invented the inner tube for his son…

Bruchsal: In this baroque chateau of the XVIII century, built by the Bishop Prince of Spire, there is a museum of mechanical musical instruments.

Parsifal: This Wagnerian hero was borrowed to create the high-speed Benz-Parsifal in 1902.

Pforzheim: At the entrance of the Black Forest, this town is known for its jewelry and clock-making. This was Bertha Benz’ home town and everyone knew her – including the telegrapher.