Charles Cotta

and His Four Wheel Drive Steamer

By Walter Risley

CHARLES COTTA

The following article about Charles Cotta, provided by Les Hamilton, was taken from *The Antique Automobile* magazine, Summer 1956 issue.

He was a wise inventor in those dim first years of the automobile, who could trace a precise line between the creative idea and the uncertainties of the manufacturing plant. Many an anticipated horseless carriage fortune degenerated into a wistful story of what might have been because an ambitious but inexperienced tinkerer mistook his workshop model for a salable piece of merchandise and allowed himself to become involved in an unholy promotion hereof. Master mechanics like Henry Ford and Walter Chrysler profitably combined inventive genius with a happy knack for the assembly line but there were not many like them.

On the other hand, there was Charles Cotta, for instance, who spoke his automotive lines briefly and concisely but who left the pitfalls of the early motor car manufacturing to the less wary individual.

Cotta boasted no experience in the mechanical trades prior to his self-introduction to the horseless carriage. Born and raised in Illinois, he was associated with his father in a prosperous nursery business near Lanark in Carroll County, wholly unaware that one day he would exchange his trowel for a greasy monkey-wrench.

When the automobile reared its complicated mechanism in the mid-nineties, Cotta's interest was in all probability whetted by reading of the new marvel in Mauve Decade equivalents of home mechanics and do-it-yourself magazines.

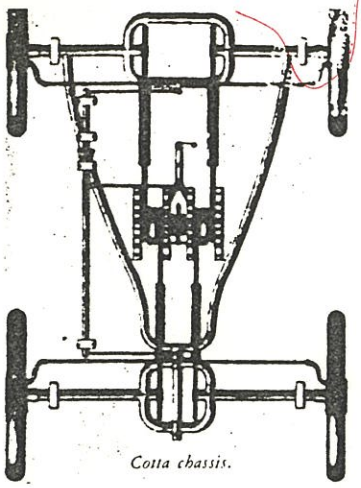
Anyhow, he certainly worked from scratch and without the benefit of a machine-shop background.

One can only piece together fragments of wispy recollection and resort to perilous conjecture regarding Cotta's first car. Outstanding among its features was its system of four wheel drive but as to the intimate details, those who once knew are either beyond the telling or else they keep the secret wrapped in cloudy memories.

In 1900, though, the result of Cotta's labors took official form as U.S. Patent, number 532,949 - an "automobile running gear and transmission device." The unspecific designation failed to mention four wheel drive but this qualification would hardly have meant anything to a turn-of-the-century patent clerk who probably knew nothing of motor vehicles, anyway.

But to those who had become even remotely familiar with the new transport medium, the Cotta was a strange and uncertain deviation. One contemporary motor journal called it "ingenious but impractical." The press did, however, concede that the four wheel traction principle might possibly be adopted sometime in the future.

As an actual road vehicle, the Cotta was no thing of beauty, even by the vague standards of its day.


Cotta chassis.

The car looked as though it might have once been a two passenger Stanley or something but it served to prove the inventor's point. Said Mr. Cotta in explanation of his carriage:

"An automobile, in order to be a successful traction vehicle, must not only be able to travel on dry roads, but must be able to travel and propel itself successfully in all seasons and under all conditions of roadway. It must have ability to ascend and descend slippery grades. It must have ability to raise itself out of mudholes and ruts and mount obstacles and be guided over rough and uneven surfaces without danger of jerking the steering lever out of the operator's hand.

The difficulties of operating automobiles as above have come under our observation so vividly that we have designed, patented and built a vehicle which overcomes them all.

We use steam as motive power, and divide the power at the driving shaft, by our compensating gear, into four equal and independent parts and transmit it to each of the four wheels. Each wheel does exactly its own one-quarter of the driving.

The steering pivot is placed in the direct center of the hub and in turning curves all four wheels oscillate so that the rear wheels travel in the same track as the front ones. The boiler is placed in front of the operator, the engine under the footboard and the compensating gear under the body.

The axles are tubular with a shaft running through them transmitting the power from the sprocket wheel to a universal joint in the hub."

Such was the first Cotta vehicle, evidently completed at Lanark, in 1901. The Cotta Automobile Company was created to provide a name for the endeavor. In 1902 the inventor moved lock, stock, and coppertube boiler to nearby Rockford where one or two improved cars were constructed.

Mr. Cotta had now arrived at that critical line between experiment and manufacture. It is uncertain just what he had in mind as the next step or how he came to his decision but, at least, we know what course he took. In 1903, Cotta sold his patent to a budding Milwaukee venture called the Four Wheel Drive Wagon Company which later produced heavy trucks employing the Cotta transmission and drive principles. This firm eventually moved upstate to Clintonville where its successor still builds FWD trucks and similar machines. Back in 1911, incidentally, it harkened to the passenger car siren and turned out a few huge four cylinder, four wheel drive touring cars.


Charles Cotta at the tiller of his 4-wheel drive steamer.

Meanwhile, Cotta became a manufacturer after all. He headed the Cotta Transmission Company and later, the Cotta Gear Company, both of Rockford and both eminently successful firms. The pioneering inventor passed away several years ago and none of the three or four cars he built have survived. To our generation, Cotta may at best be an obscure name but the experiments and the trials of this small-town Illinoisan have their secure place in America's motor history for he helped make possible the versatile four wheel drive commercial carriers that are so much a part of today's transportation.