of Österreichische Daimler Motoren cars, the motor oil Garqyll Ölf of the Deutsche Vacuum Öl Company—a subsidiary of the American Mobil oil—and the dragon of the Fafnir-werke Aktiengesellschaft Aachener Stahlwarenfabrik, German manufacturer of engines and mechanical parts for vehicles. They also identify the lion of Peugeot, the French manufacturer, and, supported in a terrestrial sphere, the one of the car manufacturer Gräf & Stift, from Vienna. Finally, we observe the rampant horse of Continental and the elephant of Metzeler, both German pneumatic tire manufacturers.

THE AMERICAN MARKET. Stepney successfully introduced their spare wheels in the North American market, through the subsidiary Spare Motor Wheel of America established in October 1907. At this time they also stopped utilizing the characteristic image of the bulldog emerging from a tire ring. Perhaps this was because other American companies, such as the Salisbury Tire Co. from Owosso, Michigan (founded in 1906), were advertising with a similar image, with the same breed of dog.

DUNLOP. The British company launched their detachable wire-spoke wheel model in 1909 for the local market, and later undertook the manufacture and sale in U.S. territory through the Dunlop Wire Wheel Corporation of America.

American car manufacturers are just beginning to feel the “wire wheel pressure.” Buyers are demanding wire wheels because they have learned of their superior strength, their graceful appearance and their great tire-saving ability (in fact they increase the wear of the tires 70% by actual test).

George W. Houk Company
5001 LANCASTER AVENUE
PHILADELPHIA - - - PENNSYLVANIA

OF BICYCLES AND CANNONS. The history of the British company Rudge-Whitworth goes back to 1869, when the engineer and mechanic Daniel Rudge started to manufacture bicycles. After the death of Rudge in 1880, the company merged with their competitor the Whitworth Cycle Company, creating Rudge-Whitworth which, over the years, incorporated motorcycles and automobile spare parts in their catalog. In 1905 they were already working on the detachable wheel and their patents for its manufacture were licensed in different countries. In the United States the rights were handled by the Marlin-Rockwell Corporation, originally a family-owned company specializing in the manufacture of revolvers and pistols. In 1915 it was recapitalized by an investment group from New York and during World War I became one of the largest manufacturers of guns and weapons, supplying the American army and Allied forces with their products. The license for manufacturing the Rudge-Whitworth wheel is an example of the diversification undertaken after the end of the war.

96. Advertisement in Motor Age magazine, January 1, 1920.
97. Advertisement in an American magazine, 1926.
THE CRIMSON ELF.
Rudge-Whitworth wheels advertisements in France were created by the illustrator Gustave Blanchot “Gus Bofa” (1883-1968). Prolific author, graphic designer and illustrator, he was also linked to the development of satirical humorous press for his time. Bofa created a unique character portrayed in the company’s advertisements from 1912 to 1917. It was a reddish elf who was willing to help the motorist in the complicated (or simple?) task of replacing the damaged wheel.

EXPORTING. In France the detachable wheels, presumably made in Britain, were represented by the Roues Détachables Rudge-Whitworth joint stock company, with administrative headquarters and repair shops in Paris. The slogan pronounced by the advertising mascot of the product was very eloquent: "Get out of there, I’m getting in!"

100. Lithograph poster, c. 1912. 120 x 160 cm. Printer: Charles Verneau, Paris. Signed by Gus Bofa.
THE PNEUMATIC TIRE LIFESAVER. The Roue de Sécours Hall [Hall Spare Wheel] was a spare wheel made up of a pneumatic tire mounted on a metal rim. Its fastenings allowed it to be fitted on the outside, parallel to the fixed rim of the car wheel where the damaged tire was located. Thus, without dismounting the wheel and for short journeys, it could be utilized until reaching one’s destination. It had been manufactured in Great Britain since 1909 and was also commercialized in the French market. The poster shown above portrays the faded worn and damaged tire being aided by the new Hall pneumatic tire and rim.

HOME MARKET.
For the French market during the first and second decade of the 1900s, the brands of detachable wheels — *rue amovible* or *rue détachable* — included imported brands such as Dunlop or Rudge-Whitworth together with similar products offered by local companies. This was also the case of the Roue Métallique Gallia — wire-spoke wheels commercialized by P. Barthelat — shown in the postcard at the top of the page, knocking out an obsolete artillery wheel. On the left, the promotional postcard shows how the Barthelat wheel could fit with different bands from the same manufacturer: pneumatic tires, non-skid tires and solid rubber tires.

102. Gallia advertising postcard, 1912. Signed by Raoul Vion (1879–c. 1940).
THE VIRTUOSO WHEEL.
Since 1913 the Gallia metal wheel was manufactured and commercialized directly by Etablissements Gallia, a joint-stock company with an office located at 67 Boulevard Bessières in Paris. For their part, the P. Barthelat firm went on to manufacture their own metal wheels in addition to non-skid covers, pneumatic tires and solid rubber tires at their production facilities located in Levallois-Perret.
That is why the postcards of the series "Les Vertus de la Rue Métallique" published by P. Barthelat were recycled, bypassing the previous reference to the Gallia wheel and printing the name of Barthelat in its place.

105-111. The six promotional postcards of the series "Les Vertus de la Rue Métallique" advertising the wheels Gallia / Barthelat, 1913. Printed by Kossuth, Paris. Illustrations signed by Georges Pritt.
13. MICHELIN STEEL DISK WHEEL, A BUSINESS OPPORTUNITY
THE R.A.F. METAL WHEEL.
In addition to Gallia and Barthelat, other well-known brands were the Hardie wheel of the Aug. C. Gomes & Cie. and the R.A.F. metal wheel manufactured by the Société Française des Roues Supplebles under license with Dunlop. The image above shows a unit of military ambulances from the brand Panhard-Levassor, equipped with R.A.F metal wheels and ready to serve in the Great War. The roues amovibles allowed for simple assembly and disassembly, as depicted in the poster on the right, in which a young lady is able to manipulate and change it without major problems.

HOUK WIRE-SPOKE WHEELS. In the advertisement shown here for the detachable wire-spoke wheels manufactured by the American company Houk, an alleged newspaper excerpt explains the vicissitudes of an American war correspondent—in 1914 the United States maintained itself out of the conflict—deployed to the European front. The text narrates how the speed in changing a damaged wheel, being under fire from German soldiers, was key to be able to continue the route without suffering losses.

ARTILLERY WHEELS. The advertisement by the Automotive Wood Wheel Manufacturers Association, shown above, aimed to reinforce the reasons justifying the use of the artillery wheel. This was done by photographs published in the press, which showed U.S. Army vehicles—transport trucks and vans, ambulances and truck kitchens—equipped with this technology, a demonstration of its effectiveness and especially its efficacy under the hardest conditions.

INDESTRUCTIBLE WHEELS. The above image is an advertising poster for the wire-spoke rim wheels manufactured by the German company Kronprinz, founded by Rudolf Kronenberg and Carl Prinz in 1897. The illustration depicts the supremacy of metal over wood when serving as structural material for wheels that equipped military vehicles on the battle fronts. The Kronprinz AG für Metallindustrie de Ohligs, together with the city of Solingen, started their activities as an industry dedicated to the manufacture of metal products—tubes, profiles, machinery parts—made of iron and steel. Soon they directed part of production to the booming sector of bicycles and later, also to the supply of wheels and rims for the emerging market of motorcycles and automobiles. In 2001 they were acquired by Michelin, and dedicated entirely to manufacturing the range of steel rim wheels for the multinational company.

116. German lithograph poster, 1916. Signed by illustrator and poster artist Max Schammler (1868-?).
ITALY AND FRANCE. Italian manufacturer Fiat and French Michelin developed similar disc wheel technology during the First World War.

117. Above on the left, a Michelin twin wheel model, according to the article "European and U.S.A. tire practices," Motor Age, June 6, 1918. To its right, two variants of the wheels developed by Fiat, illustrating the article "Disc wheels for passenger cars," The Automobile & Automotive Industries, May 1, 1919.

118. 1917 photograph of a Fiat truck for the Air Force, with disc wheels produced by the same company.

119. Photograph of French soldiers next to a Renault transport truck equipped with Michelin disc wheels. Soissons, Aisne, 1917.
FRENCH ADVERTISING. Michelin devoted much of their advertising efforts in promoting the use of the *roue amovible*, becoming one of their star products along with the new Cablé pneumatic tire that soon replaced the prematurely obsolete R.U.-Roulement Universal.

120. Lithograph poster, 48 x 74.5 cm, 1921. Illustrated by Albert Philibert.
MICHELIN DISC WHEELS
FOR BATTLE AND FOR DAILY USE.

As the text in the image immediately below shows, the Michelin wheel surpasses all the tests that it is subjected to, in spite of the rough terrain and the worst conditions, as amply demonstrated in military battle scenes where it equips military vehicles. In addition, as explained by the second image at the bottom of the page, its ease of cleaning, assembly and maintenance—so much so that even a young girl is able to handle it—makes it the ideal choice to equip automobiles for civilian use.

THE WHEEL OF VICTORY.
The characteristic pose of Bibendum lifting the detachable disc wheel victoriously as if it were a trophy—and thus showing its lightness and manageability—was repeated profusely in different advertising media and in the press advertisements for the firm.

126. Back cover of a Michelin road map, c. 1924. Illustration by Georges Hautot.
THE DYNAMIC DUO.
The French illustrator Henri Genevrier (1881-1951), whose artistic name was Grand’Aigle, contributed his particular vision of the mythical universe of Bibendum. In the poster shown above, the mascot appears as a modern-day Mercury with winged feet, moving full speed next to the new Michelin detachable wheel. The scene introduces a new character, Bibendum’s faithful pneumatic companion dog, who follows the rhythm of his master. The canine mascot was shown in this unique appearance, and recovered almost eighty years later—under the name of Bubbles—in a TV advert launched in 2004 for the American consumer. Later it was adapted to the form of a promotional stuffed animal and resin figure, always accompanying Bibendum, as part of publicity campaigns.

127. Poster signed by Grand’Aigle, 1925.
128. Illustration of the back cover of a Michelin Road Map (French), 1925.
129. Illustration of the back cover of a Michelin Road Map (Spanish), 1925.
THE WHEEL AND THE STAMP.
Another of the advertising media on which images of the Michelin wheel were portrayed included promotional stamps—known as poster stamps or cinderellas—authentic miniature posters that displayed the product and which traveled glued to letter envelopes and package wrappers.

130. Various promotional stamps issued by Michelin between 1923 and 1927.
LOOK ALIKES. One of the possibilities offered by certain manufacturers was to attach a hubcap to the most economical and lightest wire wheels to protect them from the dirt, dust and mud from the roads. During the early part of 1925 in France the popular brand of flasques [hubcaps] known as Lumen was launched by the firm J. Lacoste in Paris. As stated in a news item covering the presentation of the product in the French magazine La Nature, revue des sciences et de leurs applications a l‘art et a l‘industrie, published in the first half of 1925, "(...) thus, a R.A.F. or Rudge-Whitworth wheel looks like a Michelin wheel."

13. MICHELIN STEEL DISK WHEEL, A BUSINESS OPPORTUNITY

DISC OF SUCCESS.
The Michelin disc wheel, competing with technologies similar to the one developed by the Fiat firm, was also present in the Italian market. The factory of the French company established in Turin presumably satisfied the needs of the local market and the exports to other European countries. The image on the left shows the cover of the magazine Bibendum, portraying the mascot holding a disc wheel in a humorous tone. The character, transformed into an athlete, imitates the pose of Myron’s classic disc thrower.


ON ALL FRONTS. Throughout the year 1920 Bibendum multiplied his appearances in the British press to promote the Michelin detachable wheel, in both newspapers and magazines. The illustrations always appear unsigned.

13. MICHELIN STEEL DISK WHEEL, A BUSINESS OPPORTUNITY

The shocking image of Bibendum, whose eyes are made up of disc wheels, serves to illustrate the motto "In the eyes of Motordom" (meaning "For the eyes of the motorist" or "in the eyes of the motor world"). The inner tube plus the cover, along with the detachable wheel, form a perfect combination for the motorist.

One of General Pershing’s official limousines was a 1917 model from the Locomobile firm, equipped with twin wheels in the rear and individual front-mounted wheels, to navigate the uneven roads of the French front. In 1919, after the armistice was signed, he was given a new car—with rounded lines, more stylized and modern—equipped with simple disc wheels built by the Budd company. The Locomobile company took advantage of this fact for publicity and it turned it into a selling point—for example in the advertisement published in the magazine Motor in March 1920—, as Budd did thirty years later with the advertisement shown above.
THE PATENT.
The American patent for the roue amovible solicited by André Jules Michelin, who signed as its inventor, was deposited for evaluation in May 1919 and finally granted two years later. Following the agreement reached with the Budd Wheel Corp. for the production of this technology in the United States, the "Budd Michelin" seal was incorporated into the disc wheel manufacturing process. On the left, the appearance of the shaft socket located in the center of the wheel’s exterior, with the design of the "Budd Michelin Wheel" emblem.

143. First illustrated page of the three that make up the American patent of the "Demountable Wheel."
144. Emblem extracted from a catalog of the period.
MICHELIN AND BUDD.
During 1920, the year of the product’s launch, disc wheels manufactured by the Budd Wheel Corp. were intensively advertised in newspapers, generalist magazines and specialized motor world press, in local, state and national dissemination campaigns, always under the Michelin brand.

13. MICHELIN STEEL DISK WHEEL, A BUSINESS OPPORTUNITY

**At The Auto Show**

**Michelin Disc Wheels**

For Any Car From

**Cadillac To Ford**

THROUGHOUT the world war Michelin Disc Wheels did heroic work on thousands of cars, ambulances, trucks and other army vehicles. In the front of battle, over shell torn roads, on lines of communication — everywhere these sturdy wheels met the severest tests and proved themselves superior to all others in the essentials of safety, strength, simplicity and ease of operation.

Booth 5A — Decatur Auto Show
March 3, 4 and 5

Michelin—TIRES—United States

ELDER & CONNARD

Vulcanizing — Repairing — Oils — Greases — Accessories
214-218 North Franklin Street

**RATIONALE.** In the above image, the recounting of the service provided by Michelin's disc wheels during the Great War serves as a letter of introduction for the product, exhibited at the Decatur Auto Show in March 1921. As the advertisement explains, Michelin wheels were available for all kinds of vehicles, from high-end cars such as the luxurious Cadillac to the simple and utilitarian Ford. In addition, a side note informed of a special promotional act: “See the Michelin man perform at the show.”

CIRCLE OF FRIENDS. Beginning in 1920, Michelin tire advertisements incorporated disc wheels, showing them equipping the featured cars. In this example, the popular four-seater Ford T presents a cloned multiplication of the mascot Bibendum, who appears as a driver, co-driver and a couple of passengers.

THE COLOSSAL BIBENDUM. The examples shown here in a series of 1921 advertisements portray a giant Bibendum ready to help and advise the motorist. The vehicles, of course, are equipped with all the novel Michelin disc wheels.

149-152. Advertisements in The Literary Digest, April 10, June 12, August 21 and November 27, 1921.
THE TINY BIBENDUM. In this other series of advertisements from 1922, Bibendum is represented on a small scale and takes the back seat, transferring the focus to the Michelin Cord tire that continues to appear mounted on the Budd-Michelin disc wheel.

153-156. Advertisements in The Literary Digest, July, September 17, September 23 and December 16, 1922.
ROLLING ALONG WITHOUT GOING ASTRAY.

The poster made in 1921 by Albert Philibert to advertise the *roue amovible* in France was also used for Michelin advertising in distinct markets in the European continent as well as in America. In the United States, the illustration was reproduced on the back covers of the series of four road maps edited in 1922 by the Michelin Tire Company in Milltown and designed for the American motorist. The image on the left is an adaptation of the poster on the back cover of a Latvian magazine from 1924, advertising the firm Sitmans & Bdris—distributor of Fiat cars and Michelin tires—based in Riga, the capital of a then independent Latvia.

157. Back and front cover of the Michelin Philadelphia drop-down road map, printed in five colors and accordion-folded, 1922. In addition to the city of Philadelphia and surrounding areas, it includes the southern half of New Jersey, and areas of Maryland and Delaware.

158. Michelin’s advertisement on the back cover of the Latvian magazine *Nedela, Ilustrets Schurnals*, number 15, April 11, 1924.
DISTEEL WHEELS. The principal competitor of the Budd-Michelin disc wheel was that made by the Distee Steel Wheel Corporation, a subsidiary of the Detroit Pressed Steel Co. which also produced chassis and bodywork components for the automotive industry. In January 1918 they launched an ambitious nationwide campaign, first in motor industry magazines such as Motor, Automobile Trade Journal and Motor Age and later in generalist magazines such as The Literary Digest (first advertisement published on April 20) and The Saturday Evening Post (first advertisement published on April 27).

159. Full page advertisement published in the magazine The Saturday Evening Post, October 9, 1920.
STEEL, NOBLE METAL. Disteel Wheels’ advertising campaigns in 1920 included numerous full-color and full-page advertisements in leading magazines such as Scribner’s Magazine or Harper’s Magazine. This intense advertising can be understood within the context of the fierce competition that was being unleashed. One must bear in mind that the Michelin steel disc wheels had been launched on the market—accompanied by widespread promotional dissemination—in January of that same year.

TUARC DISC WHEEL (I). The Gier Tuarc disc wheel, which appeared in the spring-summer of 1921, was designed in such a way that the socket of its axle was the same as the standard one employed for artillery wheels, thus making the replacement simple.

164. Full page advertisement published in the journal Automotive Industries & The Automobile, June 30, 1921.
TUARC STEEL WHEEL (II). Just as their direct rivals had done, the Motor Wheel Corp. launched a significant publicity campaign to advertise their Gier Tuarc wheels. Long series of advertisements were published in specialized press such as *Motor Age*, *The Automobile & Automotive Industries*, *Automobile Trade Journal* or *Motor* and generalist ones such as *The Saturday Evening Post*.

In March 1923, the Motor Wheel Corp. acquired the two rival companies Disteel Wheel and Forsyth Brothers. Thanks to this policy on the concentration of businesses, in their catalog from that same year they offered three types of steel disc wheels: Tuarc, Disteel and Forsyth. The Tuarc wheels were indicated for those transports that needed detachable tires that were easy to access and repair; Disteel wheels were suitable when it was necessary to equip the vehicle with a spare wheel; and Forsyth wheels were ideal for light cars.

**FUSION.** In March 1923, the Motor Wheel Corp. acquired the two rival companies Disteel Wheel and Forsyth Brothers. Thanks to this policy on the concentration of businesses, in their catalog from that same year they offered three types of steel disc wheels: Tuarc, Disteel and Forsyth. The Tuarc wheels were indicated for those transports that needed detachable tires that were easy to access and repair; Disteel wheels were suitable when it was necessary to equip the vehicle with a spare wheel; and Forsyth wheels were ideal for light cars.

170. Front cover for Disteel–Tuarc in *Motor Age* magazine, December 31, 1925.
THE HARVEY WHEEL.
The Harvey Rim & Wheel Company from Buffalo, New York, was established in September-October 1919 to take over the production and business previously generated by the Interlocking Rim & Wheel Company in San Francisco and Stockton, California.
The technology of their own disc wheel was developed by George E. Harvey, and the patent was finally granted—with reference number 1,420,097—on June 20, 1922.

171. Full page advertisement published in the magazine Motor Age, November 6, 1919.
172. Full page advertisement published in Automobile Trade Journal, October 1919,
HEAVY-DUTY DISCS.

The passenger and freight transport sector, especially heavy-weight vehicles and trucks, also benefited from entirely metal wheels, including pressed steel disc wheels. The equipment was offered by firms specializing in mechanical components such as the Clark Equipment Company, represented in the advertisements on the left, or produced directly by manufacturers of trucks and vans, such as Walker Electric Trucks, as seen in the above advertisement.

179. Advertisement in The Literary Digest, October 20, 1923.
A BUFFALO ON WHEELS.
The Wire Wheel Corporation of America from Buffalo, New York, used as their corporate symbol the figure of a burly and powerful bison or buffalo for their Buffalo Wheels brand of wire and disc wheels.


181. Magazine advertisement, 1924.

Clarence B. Hayes, from the outset, was an entrepreneur closely linked to the wheel industry. First, equipping animal-drawn vehicles through his own company, the Kalamazoo Wheel Company (1889) and later as Director and Vice President of the Imperial Wheel Company from Flint, Michigan. In 1908 they acquired the former National Wheel Company and established the Hayes Wheel Company, which began with a staff of about one hundred employees and which in 1924, had six different factories—including the Canadian division in Chantham, Ontario—and nearly 4,000 workers. His company focused production on automotive wheels, both as artillery and wire-spoke wheels as well as steel disc wheels.

183. Advertisement in The Saturday Evening Post, June 13, 1925.
184. Advertisement in magazine, 1926.