
*The Ateliers
Métallurgiques*

■ ■ BRUSSELS ■ ■

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The Ateliers
Métallurgiques

BRUSSELS

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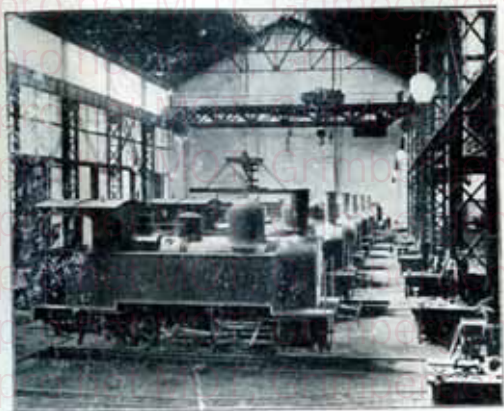
WORKS AT

TUBIZE

NIVELLES

LA SAMBRE.

HEVERMANS — Brussels.



Tubize Locomotive Erecting Shop.

REFERENCES

BELGIUM. — Chemins de Fer de l'Etat Belge. — Société Nationale des Chemins de Fer Vicinaux. — Les Tramways Bruxellois — Les Tramways d'Anvers. — Les Tramways Electriques de Gand. — Société Anonyme des Railways Economiques de Liège-Seraing & Extensions. — Les Tramways Communaux Liégeois. — Les Tramways Vervétois. — Société Générale de Chemins de Fer Economiques, etc., etc.

FRANCE. — Chemin de Fer de Paris-Orléans. — Compagnie Internationale des Wagons-Lits et des Grand Express Européens. — Tramways à vapeur de Paris à St-Germain. — Compagnie du Chemin de Fer sur route de Paris à Arpajon. — Société des Tramways de Roubaix-Tourcoing. — Tramways et Omnibus de Toulouse. — Tramways de Bayonne à Biarritz, etc., etc.

NETHERLANDS — Société pour l'Exploitation des Chemins de Fer de l'Etat Néerlandais. — Société des Vicinaux Hollandais. — Zuid-Nederlandsche Stoomtramweg Maatschappij. — Tramways Electriques de Rotterdam. — Tramways d'Amsterdam-Haarlem, etc., etc.

GERMANY. — Chemins de Fer de l'Etat Wurtembourgeois. — Chemins de Fer du Grand-Duché de Bade. — Westdeutsche Eisenbahn Gesellschaft, etc., etc.

GREAT DUCHY OF LUXEMBURG. — Chemins de Fer Communaux Luxembourgeois. — Chemins de Fer et Mines Prince Henri.

ITALY. — Chemins de Fer de l'Etat Italien. — Chemins de Fer de la Méditerranée. — Chemins de Fer Méridionaux. — Tramways Napolitains. — Chemins de Fer de l'Appenin Central. — Chemins de Fer du Nord de Milan. Tramways à vapeur de Brescia, Mantoue, Ostiglia. — Tramways de Rome à Civita Castellana. — Tramways de Turin. — Tramways de Livourne. — Tramways Florentins. — Tramways à vapeur interprovinciaux de Milan, Bergame, Crémone. — Tramways Piémontais, etc., etc.

SPAIN AND PORTUGAL. — Tramways de Madrid. — Tramways de Sarria à Barcelone. — Compagnie Royale des Chemins de Fer Portugais. — Chemins de Fer du Sud et Sud-Est du Portugal. — Chemins de Fer du Val de Vouga. — Tramways de Cadix. — Chemins de Fer de la Carolina. Tramway de Ponte Vedra Marin. — Chemin de Fer de Torralba-Soria, etc., etc.

GREECE. — Chemins de Fer de la Thessalie. — Chemins de Fer d'Attique. — Tramways d'Athènes, Pirée et Extensions, etc., etc.

EGYPT. — Chemins de Fer de la Basse-Egypte. — Tramways d'Alexandrie. — The Cairo and Heliopolis Oases Company. — Fayoum Light Railways, etc., etc.

RUSSIA. — Chemins de Fer de l'Empire Russe. — Tramways de Kazan. — Tramways de Rostoff. — Tramways d'Astrakan, etc.

TURKEY. — Société Ottomane des Chemins de Fer de Damas Hama et Prolongement. — Chemin de Fer de Moudania-Brousse. — Tramways de Salonique, etc., etc.

BULGARIA. — Tramways de Sofia.

ASIA. — Chemins de Fer et Tramways de l'Asie. —

Chemin de fer de Pekin-Hankow. — Tramways de Rangoon. — Compagnie Française de Tramways de l'Indo-Chine. — Imperial Tientsin-Pukow Railway, etc., etc.

AFRICA. — Chemins de Fer Transafricains. — Chemins de Fer du Congo Supérieur aux Grands Lacs Africains. — Tramway d'Oran à Hamman-Bou-Hadjar et Extensions. — Chemins de Fer de Loanda-Ambaca. — Etat Indépendant du Congo. — Compagnie du Chemin de Fer du Bas-Congo au Katanga, etc., etc.

AMERICA. — Compagnie Auxiliaire de Chemins de Fer au Brésil. — Compagnie Générale de Tramways de Buenos-Ayres. — Grand Chemin de Fer Central Sud Américain. — Tramways de Tucuman. — Chemins de Fer du Carenero. — Chemin de Fer Central du Brésil. — Chemins de Fer Dominicains, etc., etc.

OCEANIA. — Tramways de Manille.

THE ATELIERS
METALLURGIQUES Co., LTD.

The ATELIERS METALLURGIQUES have acquired in 1905 the Works which for a great number of years were owned and run by LA METALLURGIQUE and founded in 1854 by the SOCIETE METALLURGIQUE ET CHARDONNIERE BELGE.

The Works of the ATELIERS METALLURGIQUES are situated at Tabize, Nivelles and La Sambre (Charleroi). They give employment to some 3000 workmen.

The Company is the only one in Belgium which supplies (rails excepted) everything connected with the permanent way and rolling stock of railways, light railways and steam or electrical tramways.

The yearly output varies between 600,000 to 800,000 £.

Since the establishment of the Works, we have supplied a great number of colonial and Foreign Governments and all Rolling Stock which has gone into service in every respect, and the value of the output on the first

Belgium



4 cylinder Compound Expansion Locomotive (type 85)



Belgian Light-Railway

Tank-Locomotive with Superheater, Weight empty 18 T.

page of the present book bears ample testimony to our speciality.

The capital of the ATELIERS MÉTALLURGIQUES amounts to 100,000,000 francs. The Company has during the last few years enlarged and equipped the Works with modern machinery and is now in a position to supply the world essentially with the largest Foreign or Belgian products.

Specially selected materials and first class workmanship have placed the ATELIERS MÉTALLURGIQUES in the first rank for Railway and Tramway Rolling Stock.

TUBIZE.

The TUBIZE WORKS employ from 600 to 900 workmen and their yearly output amounts to from 60 to 100 locomotives according to types.

These Works have been building for MORE THAN 55 YEARS locomotives of every description and size, viz:

1^o. *Steam Locomotives.*

Twin Locomotives.

Compound Locomotives.

Superheated Steam Locomotives.

Locomotives of the Mallet type, etc.

Destinations: Locomotives for main lines and suitable for all kinds of traffic (express, goods, etc.).

Locomotives for branch lines.

Light Railway Locomotives.

Shunting Locomotives.

for every gauge.

Special Locomotives: Steam Locomotive-Cranes, etc.

2^o. *Electric Locomotives.*

3^o. *Compressed air Locomotives.*

The TUBIZE WORKS are specially equipped for the

Italian State Railways.



Electric locomotive.

Italian State Railways.



Third Class Bogie Carriage.

economical and by manufacture of any of the above types:

to Standard gauges;
to the Client's own design and specifications;
or to special designs.

Established since 1855, the technical staff and workmen have now the benefit of a long experience which places the TURIZO VENTURA & CO. in a position to supply clients with the stock material suitable for their requirements, both as regards Design and Workmanship.

Output: In the construction of the various engines, the latest modern machinery and appliances are used and adopted, so that all work may be turned out quickly and accurately.

The construction of locomotives has constantly assumed greater importance; in 1896, the six-wheeled locomotive was delivered and very soon the 300th will be passed.

The TURIZE WORKS comprise the following departments:

Department A. — SMITHY.

For heavy forgings, small forgings, tools, etc.

Department B. — MACHINING AND FITTING SHOPS.

This section contains two important shops, besides a tool shop and is equipped to turn out, with a similar degree of quality and finish, all parts to be machined and fitted: Sets of wheels and axles, engine underframes, driving gears, connecting rods, cylinders, brake-fittings, etc.

Mediterranean Railway



Second Class Carriage.

International Sleeping Car Co.



Saloon Bogie Carring.

The Machinery comprises more than 150 machine tools (lathes for all purposes, planers, shapers, slotting, milling and drilling machines, straightening rolls, boring and screwing machines, appliances for case-hardening and tempering, etc.).

Département C. — BOILER SHOPS.

This part is composed of

- 1^o. A shop constructed in two spans served by overhead electric-travellers respectively of 5 and 10 tons carrying capacity.
- 2^o. A shop specially devoted to the manufacture of boilers and provided with an overhead electric-traveller of 25 tons.
- 3^o. The smith's workshops equipped to machine all plates, gusses, etc. used in the construction of boilers.

The machinery is of the most improved construction and comprises: hydraulic rivetter, air compressor and pneumatic rammers, machine tools specially designed for boring fire boxes and boiler shells, drilling, milling, straightening, bending, plate edge bevelling machines, frame finishing machines, etc.

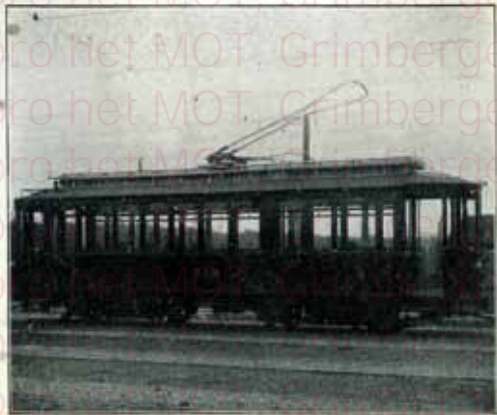
Département D. — ERECTING SHOP.

This shop laid out with the latest and most improved tools and appliances, is served by a 30 ton overhead electric traveller and contains 8 pits suitable for the erection of the heaviest locomotives.

Other Shops: Amongst these we may mention, the stores, the shops specially used for the preparation of light plates, sheathing, panelling, and pipes for the construction of boilers, a pattern shop, etc.

A testing machine placed at the disposal of inspectors affords easy and rapid means for ascertaining the quality of the material used in the construction.

Electrische Spoorweg Maatij. (Amsterdam—Haarlem Tramways)



Second Class Bogie Electric Motor Carriage.

Ghent Electric Tramways
The Cairo Electric Railways and Heliopolis Oases Company.



Open Electric Motor Car „Jardinière”.

NIVELLES.

The NIVELLES WORKS established in 1871 are specially devoted to the construction of railway rolling stock of every description and gauge, viz: saloon and sleeping cars, dining and luncheon cars, mail-vans, closed, open, convertible and semi-convertible tramway cars, electric motor cars and trailers, luggage-vans, goods wagons of every type, refrigerator vans, busses, trucks, boggies, springs, forgings, etc.

These Works are laid out with the necessary machinery for manufacturing all details in connection with the construction of passenger carriages. They give employment to some 1200 men and are equipped for an annual output of 2000 cars and wagons of every description. They comprise six separate departments viz:

- 1^o. The Power House.
- 2^o. The Saw Mills and Joinery.
- 3^o. The Engineering Shop.
- 4^o. The Smithy and Spring Department.
- 5^o. The Paint Shops.
- 6^o. The Upholstery Shop.

1^o. *Motive Power.* — The Power House contains two 350 HP steam engines. Steam is supplied by four Babcock & Wilcox boilers, of which two are specially designed for burning saw-dust and refuse. The current required for motive power and lighting is distributed through all the different shops from the Power House.

2^o. *Wood working shops, dry-g-kilns, joinery, cabinet-work, etc.* — All wood is carefully stacked in spacious store rooms specially built for this purpose. Before

Salonique 7. *Sways Company.*



1st and 2nd Motor Car.

Régie Générale de Chemins de Fer.
Sté Ottomane Smyrne-Cassaba et Prolongement.



Tender for

Compound Engine.

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generally use

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3^o. The Engine

a) the Smit
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necessary in case

b) the Boiler

seasoned in steam drying
different kinds of wood

inches where the different
parts and all cabinet-work
is prepared to be polished.

and to the selection
of the most improved
materials put down in

and used
such as, etc. for
other forgings

drilling, boring

and punching machines, electric and pneumatic reamers and riveters and other necessary appliances for the construction of the parts of carriages and wagons.

c) the Fitting Shop is laid out with modern machine tools for finishing castings, forgings, etc.

d) in the General Erecting Shop all parts finished in the above sections are assembled.

All these shops are well supplied with the mechanical appliances necessary for the quick and easy handling of materials and parts.

4^o. *Spring Smithy.* — This shop contains the necessary machinery for manufacturing all kinds of suspension, buffer and draw gear springs (helical, volute and plate springs) for rolling stock of every description.

Pekin-Hankow Railway.



40-ton High-sided Wagon.

Belgian Light-Railways (Petite Espinette Line).



Electric Motor Watering Wagon, cap. 2640 galls.

All the products of this section are carefully tested in a Buckton testing machine before leaving this shop.

5^o. *Paint Shop.* — The Paint Shops are provided with pits as well as compressed air, gas, steam, electric and water mains.

They are separated from the other shops so as to exclude all dust.

6^o. *Upholstery Shop.* — This department contains all the necessary appliances for the manufacture of the interior finishing, trimming, upholstery, blinds, curtains and cushions.

LA SAMBRE.

The „La Sambre Works” established in 1865 are devoted to the manufacture and erection of fixed,

road and railway bridges, quarry and shop overhead travellers with electric, hydraulic or hand driven gear, roof principals and structural framework for stations, covered markets, sheds, workshops, exhibition buildings, etc., fixed and travelling cranes, gantries, traversers, steel pit head frames, gasholders, tanks of 4' inds. and exit valves, tenders, tank trucks, axles, tyres, machines, forgings, steel castings, etc.

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Metallic roofwork of Central Antwerp Railway Station

Belgian State Railways,



Steel Bridge for

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The staff employ
900 men.
40 electric mo
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The *La S*
departments:

1^o. *The Cast Ir*
cupolas and one
electric travellers re
carrying capacity.

The cast iron fe
up to 20 tons in v
foundry supplies chiefly castings of all shapes and
sizes for locomotives, wagons, electric purposes, etc.
up to 2 tons.

ing rolls, a
hydraulic
electric

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overhead
of 36 and 5

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and the steel

2^o. *The Smithy* with six steam hammers and 1 electro-pneumatic hammer, two reheating furnaces, contains 35 fires and is equipped in a modern style.

3^o. *The Joinery* laid out with the necessary wood-working machines such as: circular saws, planers, drills, etc. for the building of wagons.

4^o. *The Wheel and Axle Shops* recently modernised and extended are provided with lathes for finishing axles, tyres and for boring wheel centres, etc., all these machines being of the latest and most improved types. The appliances for fixing tyres on and for pressing wheels on and off the axles are also of recent construction.

These shops are served by an overhead electric traveller and are equipped for a monthly production of 600 sets of wheels of all sizes.

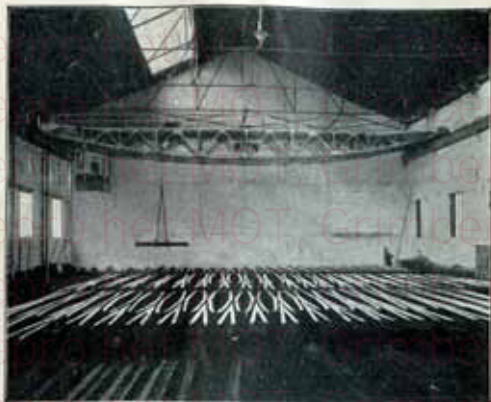
5^o. *The General Erecting Shop* with an area of more than 13000 sq. yds. comprises the shops fitted out for the construction of bridges, steel buildings, tanks, etc., etc., and the shops designed for the purpose of erecting wagons, tenders, etc.

They are laid out with the most modern machinery amongst which are: 13 punching machines, 4 plate and joist shears, 14 radial drills, planers, plate edge

Ministère du Waterstaat, du Commerce et de l'Industrie (Holland).



A span of 372 yds in length. (Double line Railway Bridge over the Meuse at Heusden (Holland).



Inside view of a Shop in our La Sambre Works provided with a 3-ton overhead electric traverser for the handling of switches and crossings.

planing machines, bending and straightening rolls, a powerful hydraulic press, pneumatic and hydraulic rivetting plants, etc.

These shops are traversed by 5 overhead electric travellers of respectively 10, 8, 6, 5 and 3 tons.

The monthly output amounts to 600 tons of bridges, roofwork, etc., and 150 wagons.

6°. *The points and crossing Shop* fitted with the latest improvements contains the newest description of planing, straightening, and cold circular sawing machines as well as other machines specially designed for the use of high speed tools.

The numerous manipulations which this section requires are made by a 3-6 ton overhead electric traveller, Notwithstanding the large number of machines

erected in this department
 purposes extends over
 70. The shops for
 and nuts of all kind

The handling is done
 by a 50 ton steam
 motive-crane and 1

The technical
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specialists. In
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 lost time.

Belgian State



Semaphore signal.

Our collection of extensive, we can changeable pieces already executed,

The fact that the *Tubize* for locomotives, *La Sable* works, places the to deliver quick products to any

and patterns being very early delivery of interest to any contracts

works, "specialized", for bridges and building structural works, a position in the finished

ROLLING STOCK SHOWN AT EXHIBITIONS
IN 1910.*International Exhibition at Brussels.*

One Decapod (2—10—0) Locomotive with superheater and four h.p. cylinders, Type 36 (System Flamme) of the Belgian State Railways, Weight empty about 93 tons.

One Bogie (System Flamme) for the above type of locomotive.

One Meter Gauge Locomotive with superheater for the Belgian Light Railways, Weight 18 1/2 tons.

One Standard Gauge Shunting Locomotive, Weight 13 tons.

One tender, capacity 5280 gallons, for Decapod Engine.

One Composite 1st & 2nd Class Bogie Carriage for International Service.

One Semi-Convertible Electric Motor Car.

One Electric Motor Car with special ventilating appliances.

One Tramway Dynamometer Car.

One Composite Bogie Carriage for meter gauge for the Belgian Light Railways.

One 20-ton Bogie Ballast Wagon (shown at the Colonial Exhibition of Tervueren for the Lower Congo and Katanga Railways Co.)

International Exhibition of Railways and Land Transport at Buenos Ayres.

One Standard Gauge Locomotive (4—4—0), type 15 of Belgian State Railways.

One Bogie Luggage-Van and one Bogie Covered Wagon for the French Company of Railways in Buenos Ayres Province.

One Semi-Convertible Electric Motor Car for the Cia Electrica del Norte at Tucuman (Arg. Rep.)