

Stanisław Rodowicz, Eng. the Forgotten Pioneer of Containerization in Poland

Krzysztof Lewandowski

Wrocław University of Technology, Poland

The objective of this paper is to present the works of Stanisław Rodowicz, the author of the first concept of containers in Poland, together with a brief biographical note.

Keywords: containerization, pioneer, Poland.

1. INTRODUCTION

Contrary to the assertions of contemporary literature in the field of containerization, it should be noted that Poland can boast of container production before World War II. Research revealed evidence of the development of such structures in Poland already in 1919. The author of them is Stanisław Rodowicz, who is not present in the contemporary technical literature in Poland.



Fig. 1. Stanisław Rodowicz¹.

Stanisław Rodowicz², (born on 16 February 1883 in Kiev - murdered in Katyn in 1940), an

¹ Quoted after: *Stanisław Rodowicz - 1479 - Informacje o osobie* – *PhpGedView*, www.interdrzewo.pl/4.2.2/media/WR-zdj_007.jpg

² Quoted after: Bartłomiej P. Wróblewski, *Korporacja Z.A.G. Wisła (Gdańsk)*, (at: www.archiwumkorporacyjne.pl, as of 28 VII 2010.

engineer, the son of Teodor and Stanisława, the father of Kazimierz, Stanisław and Władysław, graduated from high school in Kiev, the Technical University of Karlsruhe (technologist eng.) and Kiev, participant of the Polish-Soviet War of 1920, appraiser and consultant on technical matters in the ministries, state institutions and local government, chambers of commerce, factories, e.g. the Head of the Refrigeration Committee at the Ministry of Industry and Trade from 1930 to 1935, the president of the Association of Polish Engineers 1929-1932, a Vistula Veteran, an honorary Sparta Veteran since 1937, major of the Polish Army in reserve. He was editor in chief of the News of the Permanent Delegation of the Polish Technical Associations.

On September 20, 1939, while serving in the 6th engineering battalion, he was taken captive by the Red Army on the border with Hungary. Interned in Kozelsk with inventory number 94 on list 017/2. He was murdered by the NKVD in Katyn. In 1943, his remains were identified during the exhumation, No. 970³. He was awarded e.g. the Cross of Valour, the Officer's Cross of the Order of

³ Quoted after: *European court of human rights cour européenne des droits de l'homme Fifth section decision as to the admissibility of, Applications nos. 55508/07 and 29520/09*, by Jerzy-Roman JANOWIEC and Others against Russia, www.msz.gov.pl/resource/35e9f68e-6f1e-4c23-976c-4aab9891cb7c

Polonia Restituta, the French Legion of Honour (5th class).

2. STRUCTURES FOR THE TRANSPORT OF CONTAINERS

In 1919, Stanisław Rodowicz, Eng. developed the first draft of the container system in Poland. For that development, he obtained the French patent FR507533A, *Wagon a caisses multiples amovibles at interchangeables*, Rodowicz 18 Dec 1919 (Fig.2), which contains complete solution of the container system, including rail cars and designs of as many as four versions of containers.

two sources: the Industry and Commerce magazine, R. 1 (1920) No. 13 page 10⁶, and the New Book, 1935 R. II p. 3⁷.

The prototype biaxial wagon was subjected to practical testing. This version was the subject of the following patents:

- a) Great Britain: GB155596 (A) — 1921-10-13, *Improvements in railway cars fitted with removable and inter-changeable bodies*,
- b) USA: US1403568 *VEHICLE WITH REMOVABLE INTERCHANGEABLE SUPERSTRUCTURE* STANISLAS RODOWICZ, patented jun 17, 1922 e,

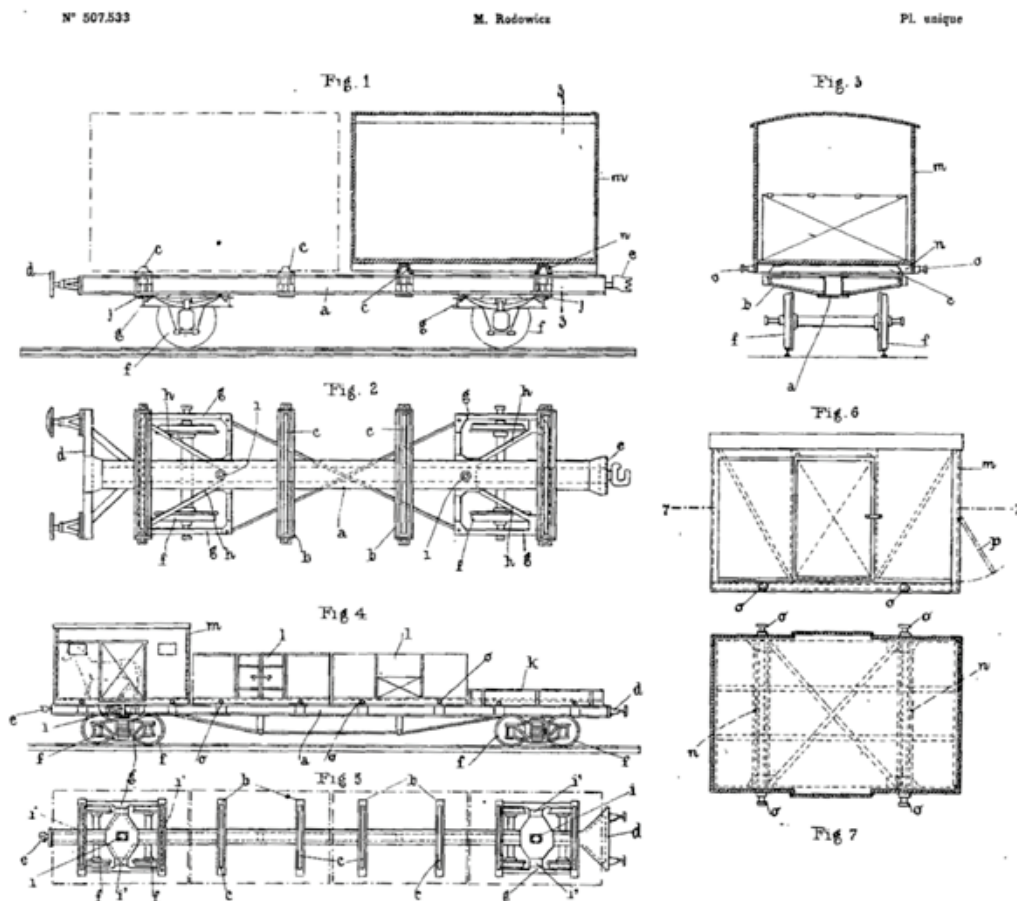


Fig. 2. Original drawings of the Stanisław Rodowicz's patent on vehicles and containers of 1919⁴.

Also in 1920, Stanisław Rodowicz developed and self-released a small booklet titled "Cars with the portable body for rail, road and water freights", P. 12, Warsaw, Author's iss. 1920⁵. It is mentioned by

- c) Austria: AT 93288B, *Schienen- oder Straßen- bzw. Wasserfahrzeug*, Jun 25, 1923,

⁴ FR507533A, *Wagon a caisses multiples amovibles at interchangeables*. Rodowicz 18 Dec 1919

⁵ Originally in Polish: „Wagony o nadwoziu przenośnym dla przewozu ładunków drogami żelaznemi,

bitem i iwodnemi” Str. 12 Warszawa, Nakłautora r. 1920.

⁶ Originally in Polish: „Przemysł Handel”, R. 1 (1920) nr 13 str 10

⁷ Originally in Polish: „NowaKsiążka”, 1935 R. II z. 3.

d) Poland: PL 5222 B1, Stanisław Rodowicz (Warsaw, Poland). *Wóz, względnie wagon, z nadwoziami przenośnymi*, Issued on 18 June 1926 (Fig.3).

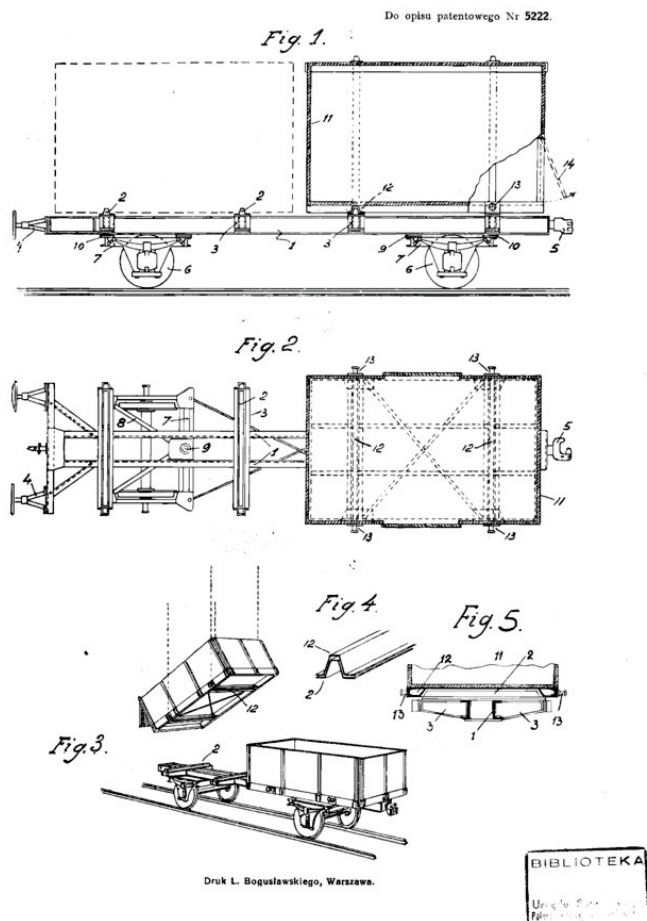


Fig. 3. Original image for Stanisław Rodowicz's patent PL 5222 B1 for a cart, or wagon, with portable bodies, granted on 18 June 1926⁸.

This solution was mentioned in an editorial item titled *Container Cars in Use in Poland* (Fig. 4-5) in the American magazine "Railway locomotives and cars", vol. 95, no 11, Nov 1921. It contained information that it was a redeveloped wagon, designed to transport two portable bodies that might be removed by sliding or hoisting with a crane.

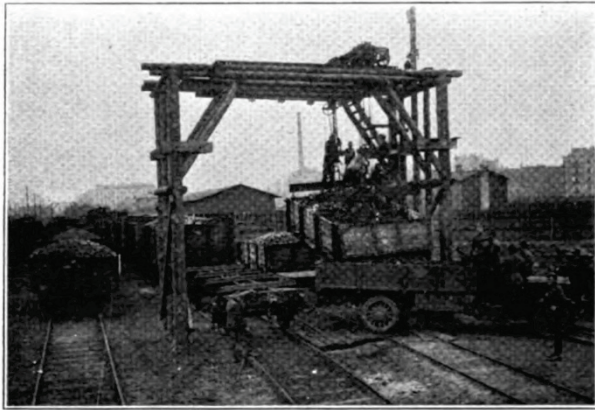


Container Car with One Body Removed Showing Details of Underframe

Fig.4. Container car with one body removed showing details of underframe⁹.

⁸ Patent PL 5222 B1, Stanisław Rodowicz. *Wóz, względnie wagon, z nadwoziami przenośnymi*, 18 June, 1926

⁹ *Container Cars in Use in Poland*, "Railway locomotives and cars" vol. 95, no 11, Nov 1921, p. 689



Dumping the Load from a Container Car Onto a Motor Truck

Fig. 5. Dumping the load¹⁰ from a container car onto a motor truck using a primitive wooden gantry¹¹ (orig. note JKL).

Among Polish publications, the only mention of this system is in the book by Julian Rummel "Gdynia - a Polish port", Torun, 1926¹²; on page 36 we can read: "*The project of transport organization with the use of such crates was developed by Mr. St. Rodowicz, Eng. (Fig. 37)*"¹³. The article contains a drawing of a wagon with the comment: "*The use of a system of portable crates by S. Rodowicz, Eng. for loading construction materials*"¹⁴.

Unfortunately, no Polish technical journal of the interwar period mentions this system. No mention of this can be found either in the Journal of Technology¹⁵ or the Railway Engineer¹⁶, probably due to the fact that it was a prototype solution. Based on the currently available sources, it can be assumed that the wagon presented in the pictures was a prototype vehicle that was not introduced to the normal commercial operation.

In the first picture the covered car has a visible PKP emblem from the 1920's in the background, while the wagon itself, with removable superstructure is at such an angle that the markings cannot be seen. In the second picture, buildings of

some station can be seen in the background, but the original article from the Railway locomotives and car, vol.95, no 11, Nov 1921, p. 689, does not indicate where the two photographs were taken.

Unfortunately, the construction of these containers and wagon for wider use was never implemented, as Poland was embroiled in the war with the Soviet Russia in the years 1919-1921.

3. STRUCTURE FOR CONTAINER HANDLING

Stanisław Rodowicz also developed a draft of a folding motorized rail crane designed for transshipment. Patent PL 861 B1, Stanisław Rodowicz (Warsaw, Poland), "Motorized rail crane," was granted on Nov. 5, 1924 (Fig. 6). It provided for the construction of the crane with telescopically collapsible support columns, folding arms for the two-level cargo deck, along which the car moved down below, and with a counterweight on top. The solution probably remained merely a design sketch. No evidence was found of constructing a prototype and its testing.

4. SUMMARY

The material presented demonstrates that a container structure was developed in Poland before World War II, as well as the means for their transportation and handling. The article points to the purposefulness of searching history for the generally unknown achievements of Poles in the field of containerization.

The name of Stanisław Rodowicz, Eng. should be entered in books on containerization in Poland in order to organize knowledge about the development of this process, and now it is commonly known that Poles are not geese¹⁷ and had a container system before World War 2.

¹⁰ In the background, the second body can be seen pushed horizontally onto another car (note by JKL)

¹¹ Container Cars in Use in Poland,

¹² Originally in Polish: „Gdynia – port Polski”, Toruń 1926 r

¹³ Originally in Polish: *Projekt organizacji transportu z zastosowaniem takich skrzyni był u nas opracowany przez inż. p. St. Rodowicza (rys. 37).*

¹⁴ Originally in Polish: *Zastosowanie przenośnych skrzyń systemu Inż. S. Rodowicza do ładowania materiałów budowlanych.*

¹⁵ Originally in Polish: „Czasopismo Techniczne”

¹⁶ Originally in Polish: „Inżynier Kolejowy”

¹⁷ Originally in Polish: Mikołaj Rej: *A niechaj narodowie wždy postronni znają, iż Polacy nie geśi, iż swój język mają, „Żwierzyniec.”*, 1562, *And let the nations foreigners know, that Poles not geese and their own language have.* Mikołaj Rej said that the Poles have their own language and therefore do not need to use the language of "goose", that is, Latin, because the sound of the language he was associated with the gaggle. Herein the sense that the Poles had their own original designs and do not have to import them from abroad

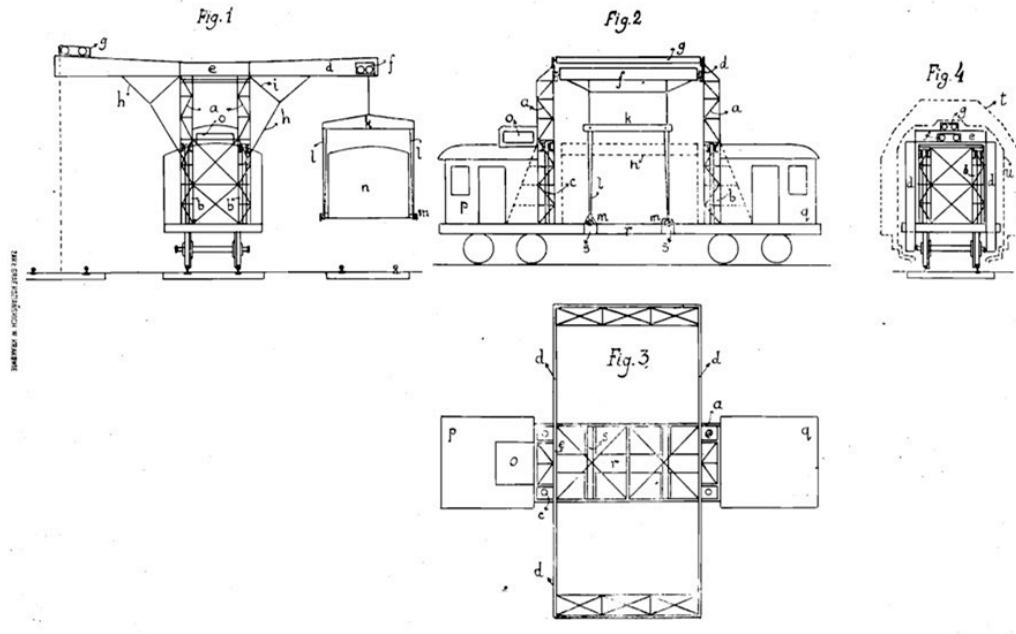


Fig. 6. The original drawing of the patent PL 861 B1, Stanisław Rodowicz (Warsaw, Poland), *Motorized rail crane*, issued Nov. 5, 1924¹⁸.

¹⁸ PL 861 B1, Stanisław Rodowicz (Warszawa, Polska), *Motorowa dźwignica kolejowa*, 5 November 1924 r.

