

THE IMPORTANCE OF THE PORT OF *REVAL*



FROM THE POINT OF
VIEW OF THE WORLDS
TRANSIT TRADE WITH
RUSSIA

THE IMPORTANCE OF THE PORT OF REVAL

FROM THE POINT
OF VIEW OF THE WORLDS
TRANSIT TRADE WITH RUSSIA

4-A

49609



REVAL — TALLINN — 1921

**THE IMPORTANCE OF THE PORT OF REVAL
(TALLINN) FROM THE POINT OF VIEW OF THE
WORLD'S TRANSIT TRADE WITH RUSSIA.**

Among the five seaports of the Republic of Esthonia — Narva, Reval (Tallinn), Baltic Port (Baltiski), Hapsal (Haapsalu) and Pernau (Pärnu) — Reval is the most important owing to its favourable situation, equipment, and almost entire freedom from ice in the winter time. It answers to a greater extent than other ports to the requirements of the world's trade with Russia.

Reval is the nearest seaport to Petrograd, and it possesses an extensive harbour. The depth of water is over 22 feet and the port is quite free from ice during the winter time. Both these ports are connected with the Russian railway system with lines of similar gauge enabling the delivery of goods by railway from Russia to the port and back without transshipping. Both Reval and Baltic Port are furnished with well built and commodious warehouses, yards, and lading places. Within the area of the Reval harbour there is a grain elevator with a capacity of over 4000 tons of grain. In all 500 000 tons of goods can be stored in the warehouses of the port of Reval not taking in consideration the open sheds and lading places.

The Reval bay is situated on the south coast of the Gulf of Finland, 59 26' 56" North latitude and 24 46' 2" East longitude, 190 miles west of Petrograd.

Geographical and physical aspects. The bay is a very convenient anchoring place for large vessels, being protected from the south winds and partly from the north by the islands of Paljasaar, Naissaar, Nargen, and Aegnesaar. The bay is about 7.5 miles broad and 4.3 miles long, while the depth of the water varies from 72 to 88 feet.

The bay forms a very favourable anchorage, the bottom being of large grained sand covered with coat of seamud. Below the sand there is a thick layer of blue clay.

Currents are very weak in the Reval bay and observable only when the north-west winds are blowing. The only harmful effect of these currents is outside the harbour, shoals being caused at the low coast of the Catharine dale. Regarding the depth of water in the harbour over a period of 25 years it diminished about 2¹/₂ inches annually, the necessary depth being easily sustained by means of dredgers.

Winds. The most prevalent winds are from the south-west. The westerly winds, blowing from the sea, are, however, of a more continuous character, though occurring with less frequency than from the south-west. Then come the north-west and lastly the north and east winds. During the summer months the prevailing winds are from the north, and from the south in the winter time.

This explains why the climate of Reval, which is the same latitude as Petrograd is considerably milder than that of latter.

The average number of calms during a year is 32 which occur chiefly in the morning and evening. In the spring and autumn, these calms are sometimes attended by fog. This, however, is of rare occurrence.

Owing to the natural formation of the bay the forgoing meteorological conditions do not present any impediment to navigation.

Storms. From the point of view of velocity the north-east winds may be taken first, after which come the north, then the east and south winds. The strongest winds are: in January the north-west winds; in February the north-east; in March, April, September, October, and November the north; in May, June and August the west, in July and December the east winds.

The sea is the roughest in January when the wind is in the north-west and in the autumn when it is in the north and north east.

Changes in the water level. Observations have established the fact that the water level in the harbour varies from 4 to 1.05 feet above the lowest water level when the latter is taken for zero. High water level is following the north-west or south-west winds, while the low level is following the east wind (June to December).

The duration of the navigation. The port of Reval should be classified among the non-freezing ports of the Baltic sea. During a period of 25 years there were only 10 instances when ships had to be sent to the icefree Baltic Port for discharging. Usually navigation is maintained at the port of Reval all the year round with the aid of ice-breakers. Drift ice is mostly formed by the north and north-east winds. Frequently this ice is driven out again by south winds and the roadstead becomes quite safe for shipping, navigation being carried on even without the aid of an ice-breaker.

Generally speaking, the port of Reval is inaccessible to small marchantmen without the aid of ice-breakers for a period of about 3 weeks (January, February).

In March the roadstead and harbour are generally quite clear of ice.

In case of emergency ships can make use of the ice-free Baltic Port which is situated 29.70 miles west of Reval. BalticPort has a water depth of 22 feet. In the near future it will be turned into a Freeport, extended and developed to meet modern requirements. At present the Baltic Port possesses extensive landing places and a well equipped warehouse. The port is well adapted for trading on flax, timber, and grain in sacks.

Roadstead. The southern port of the port (south of isle of Carlus) forms an anchorage about 3.25 miles wide and of similar length.

As it is exposed to the north and north-west winds in January, March, April, September, October and November only large vessels can anchor there at this time of the year, while small coastery vessels have to seek anchorage behind the moles.

Owing, however, to the large berthing capacity of the harbour and the absence of any other obstacles merchantmen do not, as a rule, anchor outside the harbour.

The harbour. The Reval harbour is situated quite close to the town and consists of several adjacent basins. The three moles — northern (A), southern (B), and eastern (C) — are of an islet character and serve as breakwaters.

Taken together they form what might be called an avant-port.

The harbour proper consists of three basins. The passage between the land and the east breakwater (C) forms a convenient fairway for merchantmen proceeding to sea. The average depth of water of the harbour is 30 feet.

The inside of the north, east and south breakwaters or moles are utilised for accomodating ships. On the north mole there is storage accommodation for about 10 000 tons of coal.

On the extreme west of the north mole there is a small repair shop, and on the east a pilot-station.

There are also three docks for ships up to 1000, 1500 and 5000 tons. Ships come to the north mole to take in coal, for repairs and also to lay up for winter. The greater part of the ships lay up for winter in the new harbour outside the port of Reval.

Formerly the inside of the east mole was generally used for berthing men-of-war. At present, owing to the absence of such, this sheltered place is used by sailing vessels when waiting for favourable weather to put to sea. Small repairs can also be effected there.

The south side of the south mole is used in the summer by the Reval-Yacht-Club, while the north side is used by laid-up ice-breakers. In the winter de yachts are taken ashore and small marchantmen are moored there.

Basin Nr. 1 is surrounded by a quay 1680 feet long with a waterdepth of more than 25 feet. As there is fairly extensive quay accommodation furnished with railway lines of standard and narrow gauge this quay is used chiefly for berthing ships with transit cargoes or for export goods. In the quiet season this quay is also used for accommodating coasting-vessels. On the east side of the basin Nr. 1, where there is extensive accommodation, the Swedish firm Messrs Nobel Brothers have their oil cisterns which are supplied with pipes to receive naphta directly from vessels and to deliver it by similar means into the cisterns on the railway trucks.

At the north end of it adjoining the east side of the pier warehouses are erected for storing easily combustible materials.

In order to keep down custom's charges a small auxiliary Custom Office is erected on this pier. The north end of the pier, situated between basin Nr. 1 and Nr. 2 is used exclusively for berthing passenger ships bound for foreign ports.

The quay next continues into basin Nr. 2 forming first the so called "Victoria" and further the "Baikov" quays. This quay is for berthing large vessels and is furnished with railway lines of standard and narrow gauge.

On the "Victoria" quay there is the grain elevator and one storied warehouse connected with the elevator by means of conveyors. The "Baikov" quay has an extensive landing place furnished with several warehouses where goods can be stored for a lengthened period. The short section of the "Baikov" quay opposite the buildings of the harbour administration is used for accommodating floating cranes, tugs, cutters etc. There is a dock which is connected with Nr. 2 basin by means of a narrow channel. The entrance is crossed by an iron swing-bridge. This dock is used principally for repairs, and is furnished with a launch for elevating small vessels of 60 tons carrying capacity. Here are well equipped repair shops which usually employ about 1800 hands. Then comes the so called "Merchant" quay with a berthing space of 2800 feet. On both sides of this quay there are railway lines of standard gauge. The extreme end of it is used for accommodating passenger ships only. A new quay is at present under construction on the north side of the Nr. 3 basin and is expected to be completed at the end of 1921. Railway lines of standard gauge will run on both sides of this quay, and transit warehouses and movable electric cranes will be installed. There will be berthing accommodation up to 2800 feet, while the depth of water is in excess of any other part of the harbour, namely up to 30 feet. Basin Nr. 3 will therefore be used for accommodating the largest vessels. Near this new quay is the main Custom-House with its yards and warehouses.

The total berthing space of the Port of Reval is 7280 lineal feet. For example, deducting the short spaces at the extreme ends of the quays it is capable of accommodating

13 vessels with an average net tonnage of 5000 tons for each vessel, the length of such vessels being calculated at 500 feet each. The total water area of the harbour is 2 466 664 square feet.

The elevator. The main building of the elevator divided by four rows of pillars into five parts, four of which are 10 $\frac{1}{2}$ feet, the middle one, the fifth, being 14 feet wide. The middle part forms a general corridor and is furnished with lifts. The elevator has a capacity of 4000 tons. Adjacent to the elevator itself there are three supplementary stores which are filled by means of the conveyors. One of them, with a capacity of 2000 tons of grain (loose) is built of stone; the two others are built of wood, each with a capacity of 6600 tons of grain in sacks. In a good year the work of the elevator is quite considerable; for instance in 1904 about 800 000 tons of grain passed through it. The working capacity of the elevator can, however, be increased to a large extent, if reconstructed on modern lines.

Warehouses and their storing capacity. The total area of the port of Reval is 1 691 382 square feet, while the total storing capacity of all warehouses, state and private, is 43 000 000 cubic feet. Taking that on the average 80 c. feet of space can store 1 ton of goods, all the warehouses are capable of storing simultaneously over 500 000 tons of goods. Of special importance is the accommodation on the "Merchant" quay for storing fruit and Sibirian butter. Owing to the fact that the Custom-House warehouse is not large enough, custom examinations are also made at all private warehouses. Local conditions permit the storing capacity of the warehouses, if desired, to be increased to 1 000 000 tons within the territory of the harbour. Most of the warehouses are so situated that goods can be discharged into them direct from ship.

Loading and transport facilities of the port. The port has always had a sufficiency of labour and cartage and transport facilities, however intensive the work may have been. At present preparations are made to erect electric cranes: at the "Merchant" mole 4 cranes, out of which 3 of 1 $\frac{1}{2}$ tons

and one of three tons. At the basin Nr. 1 and the quay — 4 such cranes and at the storehouses of the elevator — 2 cranes of 1 1/2 tons.

The whole area of the port is paved and lighted by electricity and is kept in a condition of order and cleanliness

Floating means of the port. To answer the needs of the port at winter time is the ice-breaker “Tasuja” of 1200 H.P. The ice-breaker “Tallinn” of 1600 H. P. and the powerful state ice-breaker “Veinemunen” of 6500 H. P. will soon be restituted to Esthonia, and also after the 1st December the ice-breaker “Hektor” of 800 H. P. 7 tugs from 150, to—600 H. P. There are 8 cranes with a lifting capacity of 25—80 tons. Another crane with a lifting capacity of 100 tons is at the “Becker’s” works, outside the territory of the harbour. The “Becker’s” works are connected with the main trunk line.

Life-boat station and life-saving means. The life-boat station of the “Baltic Saving Co” has a steel life-boat Francis with 8 oars and 4 cork life-boats — Kebke, 3 motor boats and a cannon boat Kordes. There are on the whole 28 life-boat stations on the Estonian coast between Reval and Pernau. According to the local conditions of the port these life-saving means must be considered as being sufficient as thanks to the generally favourable conditions of the Tallinn port shipwrecks occur only out in the sea and not in the bay or ports. In such cases the port and the Baltic life-boat station send out their state and private life-boat-steamers at receipt of information that vessels are stranded on sea and require help. All life-steamers are equipped with the latest life-saving apparatus.

Pilotage. Merchant ships enter the port of Reval being guided by pilots which are engaged at a fixed price. There are 18 pilots in the port and they stay part of them at Surop, part of them at Reval.

COMMERCIAL ACTIVITIES OF THE PORT OF REVAL (TALLINN).

Until the economic condition of Estonia gets back to its normal level, the commercial activities of the Port of Reval will consist chiefly in assisting the world’s transit trade with

Russia. Taking into consideration that this convenient and ice-free port is the nearest to the ice-bound port of Petrograd, it is bound to play an important role in the transit trade. In fact this has always been the case, and owing to its position in this respect various Steamship Agents and Transport Offices have been established in Tallinn for many years past. The most important of these are: "The Tallinn Steamship Company" (Formerly Gerhard and Hey) "Gahlnbäck", "Kniep and Verner", "O. Stude", "Greenberg", "Bornholdt" etc.

The foreign trade is maintained by various Estonian, Finnish, Swedish, Danish, English and German firms. The home trade is done by local firm independently.

The circulation of goods. In former time the chief imports were: coal, cotton, herrings, oranges, lemons, rice, pharmaceutical goods, dyes and paints, tanning material, artificial manure, birch wood from Finland for the Reval Woodworking factory "Luther" etc.

The principal exports were: grain, flax, asbestos, tow, wooden ware, leather and hides, etc.

At the present time the chief exports from Estonia are: flax timber, props, potatoe flour, spirits, wooden ware etc. Lately such goods as flax, asbestos, and hard roe. although the limited quantities are beginning to come in from Russia for shipment abroad.

At the present time the principal goods passing through Reval in route for Soviet Russia are: textiles, rice, machinery, material for constructing railway, agricultural implements, English coal etc.

According to the returns of the Tallinn Exchange Committee the quantity of goods passing through Tallinn in pre-war times was as follows: in transit to Russia about 1 600 000 tons, in transit from Russia about 500 000 tons. The comparatively modest figures of the former Russian export trade are explained by the fact that the aim of the Russian Government was to make Reval in the first place a naval base. Owing to this policy considerable quantities of goods which had a natural tendency towards Reval were artificially directed to Riga and other Russian Baltic ports. For instance before the Bologoie-Pskov railway-line was built there was a special cheap tariff for

sending grain from Ribinsk to Riga accordingly to which the freight was 3.4 copeks per pood cheaper than if the grain were directed to Tallinn although the distance from Ribinsk to Reval via Bologoie, Tosno, Gatchina, Narva was only 574.26 mile while the distance from Ribinsk to Riga via Gatchina, Pskov, Valk was 709.50 miles.

THE PORT OF REVAL (TALLINN) IN THE WORLD'S TRANSIT TRADE WITH RUSSIA AS COMPARED WITH OTHER PORTS OF THE BALTIC SEA.

The situation of the port of Reval as compared with that of other ports of the Baltic sea is very favourable. The fact that all former Russian railway lines west of West Dvina river and Valk—Riga and Ramotskaia—Old Schvanenburg lines are of the same gauge as the European lines, adds a point in favour of the port of Tallinn. Furthermore all these lines owing to frequent evacuations are deprived of the equipment of their workshops and to a large extent of their rolling stock and were scantily furnished with rolling stock of the general European type by the Germans when the latter were pressed by the Entente to do so under the terms of the Peace Treaty.

In spite of the fact that south and central Russia, owing to the existing type of the railway system tend towards Riga, Vindava and Libau, yet to avoid transshipment or the use of the Breitsprecher's carriages, which in former times were used in Russia for trading with Germany and the number of which is now insignificant is more advantageous at present to direct all Russian transit trade via port of Reval.

COMPARATIVE DISTANCES FROM REVAL (TALLINN) TO THE NEAREST RUSSIAN TRADE COUNTRIES.

1. Reval—Narva—Petrograd	228.36 miles
2. Reval—Narva—Petrograd—Vologda—Viatka— Ekaterinburg—Tcheliabinsk	1679.04 „
3. Reval—Narva—Gatchina—Tosno—Bologoie— Ribinsk	574.20 „
4. Reval—Narva—Gatchina—Tosno—Moskow . . .	594.66 „
5. Reval—Narva—Gatchina—Tosno—Moskow— Lubertsi—Arsamas—Tcheliabinsk	1802.46 „

6. Reval—Tapa—Valk—Irboska—Pskov	257.40 miles	
At the end of 1922 when the line between Tartu (Dorpat) and Irboska will be completed the distance between Tallinn and Pskov will be 201.30.		
7. Reval — Tapa — Valk — Irboska — Pskov — Bologoie—Moskow	687.06	”
by the new route	630.96	”
8. Reval—Narva—Gatchina—Tosno—Moskow— Nizhni Kotelnitch—Viatka — Ekaterinburg —Tcheliabinsk	1847.34	”
9. Reval—Tapa—Valk—Irboska—Pskov—Dno— Novo Sokolniki—Velikie Looki—Rzhev— Moskow	743.82	”
by the new route	687.72	”
10. Reval—Tapa—Valk—Irboska—Pskov—Dno— Novo Sokolniki—Velikie Looki—Rzhev— Moskow—Nizhni Kotelnitch—Ekaterinburg —Tcheliabinsk	1996.50	”
by the new route	1940.40	”
11. Reval—Narva—Petrograd—Vologda—Viatka— Perm—Ekaterinburg	1525.26	”

**DISTANCES TO THE SAME COMMERCIAL CENTRES
FROM RIGA.**

12. Riga — Stockmansgof — Kreitsburg — Rezhitsa — Pitalovo — Zhogovo (frontier) — Pskov — Petrograd	413.82 miles	
12a. Riga — Stockmansgof — Kreitsburg — Rezhitsa — Pitalovo (frontier) — Pskov	242.88	”
13. Riga — Kreitsburg — Rezhitsa — Rosenovskaia (frontier) — Novo Sokolniki — Velikie Looki — Bologoie — Ribinsk	650.76	”
14. Riga — Kreitsburg — Rezhitsa — Rosenovskaia — Novo Sokolniki — Velikie Looki — Rzhev — Moskow	569.58	”

15. Riga—Kreitsburg—Rezhitsa—Rosenovskaia—
Novo Sokolniki—Velikie Looki—Rzhew—
Moskow—Nizhni Kotelnitch—Ekaterinburg
—Tcheliabinsk 1828.86 miles
16. Riga—Kreitsburg—Rezhitsa—Rosenovskaia—
Novo Sokolniki—Velikie Looki—Rzhew—
Moskow—Nizhni Kotelnitch—Ekaterinburg 1676.40 ”
17. Riga—Kreitsburg—Rezhitsa—Rosenovskaia—
Novo Sokolniki—Velikie Looki—Rzhew—
Moskow—Lubertsi—Arsamas—Tcheliabinsk 1777.38 ”

ROUTES VIA FINNISH PORTS.

(Hangö — a non-freezing port, Helsingfors — ice bound.)

1. Hangö—Hyvinge—Petrograd..... 351.12 miles
2. Helsingfors—Hyvinge—Petrograd 291.72 ”
3. Hangö—Petrograd—Moskow 685.08 ”

A glance at the above is sufficient to convince one that for transit trade with Russia Finland is unable to compete with Esthonia.

In order to get a better orientation of the degree of profitableness of directing Russian transit goods through the port of Tallinn it is useful to indicate distances which this freight passes on foreign territory to the Baltic ports.

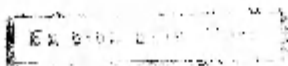
BY ESTHONIAN RAILWAYS THESE DISTANCES ACCORDING TO THE ITINERARIES INDICATED BELOW ARE EQUAL TO:

- a) Baltic Port—Reval..... 29.70 miles
- b) Reval—Narva 129.36 ”
- c) Reval—Tapa—Valk—İrboska 242.22 ”
after construction of the straightening line
Tartu—İrboska 186.12 ”

BY LATVIAN RAILWAYS

(the remaining Russian line on the East of West Dvina):

- a) Riga—Rosenovskaia 170.94 miles
- b) Riga—Dvinsk—Baltin..... 168.96 ”
- c) Riga—Kreitsburg—Rezhitsa—Pitalovo—Zhogovo 193.38 ”



No more routes are indicated as it is clear that transit through Finnish ports cannot enter into competition. Thus as far as transit is concerned Finnish ports are the most distant from all Russian trading districts. Libau and Vindau, although they are ice-free are also farther than Reval and besides have an European type of railway gauge, so that for transit to Russia transloading is required or alteration of railway gauge. For these reasons all these ports cannot compete with Reval at the actual conditions. There remains the freezing port Riga united to its foreport Riga — harbour and Mulgraben also by a railroad of European gauge.

If we compare the distances of the above mentioned routes from Reval with those from Riga, we find that Reval being united directly with Russia by a railroad of the same gauge, following large Russian trading districts should divert their traffic towards Tallinn, because:

For the district of Petrograd the itinerary of Reval No. 1 (228.36 miles) is *185.46 miles* shorter than the itinerary of Riga No. 12 (413.82 miles).

For the districts of Ribinsk, Jaroslavl, and Ivanovo-Vosnesensk the itinerary of Reval Nr. 3 (574.20 miles) is *76.56 miles* shorter than the itinerary of Riga No. 13 (650.76 miles).

For the district of Ural the itinerary Ekaterinburg—Reval No. 11 (1525.26 miles) is *151.14 miles* shorter than the itinerary Ekaterinburg—Riga No. 16 (1676.40 miles).

For the district of Siberia the itinerary No. 2 Tcheliabinsk—Reval (1679.04 miles) is *98.34 miles* shorter than the itinerary Tcheliabinsk—Riga No. 17 (1777.38 miles).

Eventually *for the district of Moskow* the Reval itinerary No. 4 (594.66 miles) is *25.08 miles* longer than the Riga itinerary No. 14 (569.58 miles), but on the route to Riga the transit freight has to travel 170.94 miles on the Latvian territory, whereas on the Esthonian territory such a cargo travels only 129.36 miles. In this case the direction of the cargo depends on the correlation between Esthonian and Latvian tariffs.

District of Pskov: The Reval itinerary No. 6 (257.40 miles) is *14.52 miles* longer than the Riga itinerary No. 12 a (242.88 miles) and after construction of the straightening line Tartu (Juriew)—Irboska, which is expected to take place not later

than 1922 the Reval route will be 41.58 miles shorter than the Riga route and in such case the district of Pskov will certainly divert their traffic towards Reval.

TRANSIT CAPACITY OF THE ESTHONIAN RAILWAY SYSTEM.

Esthonian railways having a very easy grade are estimated to be capable of running 20 pair of trains every 24 hours. Deducting 20 % of probable failure the actual running capacity by calculating that on ordinary goods train with one engine of the former Russian type can take 750 tons, will be 16 pairs of train. The rolling stock of the Esthonian railway system is in good condition so that the theoretical capacity corresponds to the actual possibility. The number of trucks and open platforms is also in excess of requirements and all are in sound condition. Thus about 600 carriages can be set moving in both directions within 24 hours. Such work was actually taking place in 1913 when the passenger movement was more intense.

If we take the maximum berthing capacity of Reval harbour to be 13 ships of 5000 tons and each ship dischargeable within 5 days about 13 000 tons of goods can be unloaded within 24 hours. And this quantity of goods corresponds to the transport capacity of the Esthonian railway.

To draw a conclusion from the above we may say that Reval, as a seaport, has the following advantages over other ports of the Baltic sea.

1. It is comparatively near to the largest commercial districts of Russia.

2. Its berthing capacity is comparatively large and it possesses facilities for transshipping goods directly from ship to warehouses and railway trucks and vice-versa.

3. Its water depth is 30 feet.

4. It is accessible to large vessels all they year round.

5. It is well equipped for rapid loading and discharging. It possesses a grain-elevator of 500 000 tons, cranes up to 100 tons, floating docks for repairing ships up to 5000 tons, well equipped repair shops (employing normally 1800 hands), and, life-saving boats.

6. The railway lines of the Esthonian railway system are of the same gauge as the Russian railways.

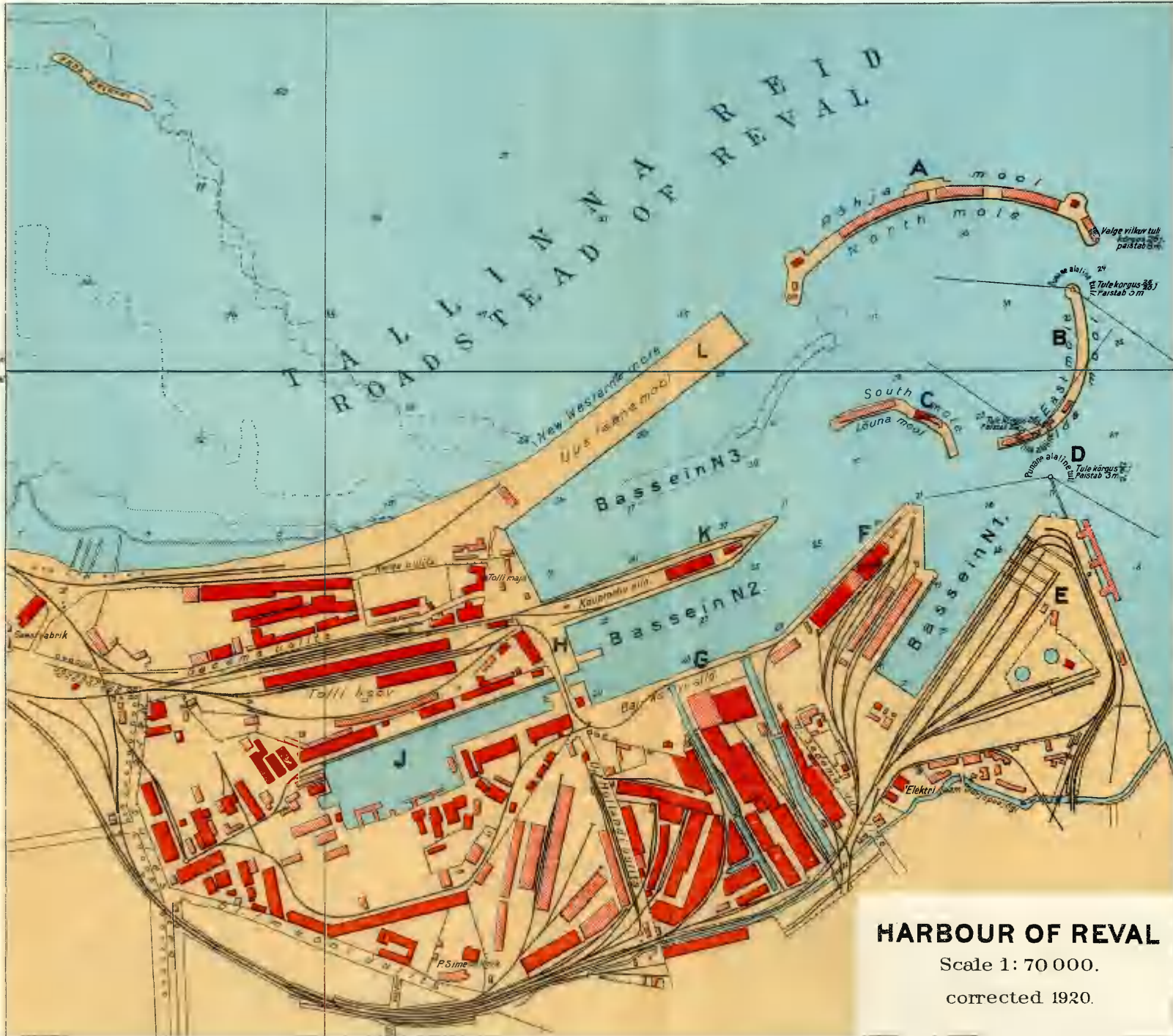
7. The handling capacity of the Esthonian railways system fully corresponds to the maximum activities of the port.

8. The entrance of the avant-port and harbour are free from shoals.

9. Not far from the port of Reval there is the non-freezing Baltic Port, situated 29.70 miles west of Reval and connected with it by means of a normal gauge railway line.



24° 46' 02"



HARBOUR OF REVAL

Scale 1: 70 000.

corrected 1920.

24° 46' 02" Greenwich

Moot 1: 70000

Photolith: Berliner Lithographisches Institut, Berlin W 35.