Ship door - Ship lock

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A ship's door in a dry dock of Suomenlinna, Helsinki.Another ship door in a dry dock of Suomenlinna.A ship's door on dry land in Birkenhead.

A ship's door (in French: bateau-porte) is a watertight seal for a dry dock, which can be removed in its entirety so that the full passage opening of the dock is usable. It is a French invention from the seventeenth century. A ship's door can be made of wood, steel or iron. It can also be used in a lock.

Action
The ship's door has an edge all around that fits snugly into a groove, which is cut into the wall of the dock. When the door is sunk, it closes the dock perfectly. In order for this to remain so, the door is filled with water.

To open the door, the dock is filled until the water level on both sides of the door is equal. Then the water is pumped out of the ship's door, until it floats. Then the door, now a ship, is towed away to allow passage to the vessel entering or leaving the dock. After passing, the door is sailed back exactly in place in the entrance of the dock and filled with water until the dock is closed by the door. The dock can then be pumped out.

In the 19th century, A.F. Goudriaan designed a ship door for a dock in Medemblik that was equipped with pointed doors. These are particularly useful for smaller ships and take less time, as moving the large and heavy ship door takes quite a bit of time and the smaller ships go through the opening of the pointed doors. Later that century, around 1860, two iron ship doors were built for two dry docks in Den Helder. These would have been the first of its kind. [1]

History
In 1683 a dry dock was built in the French town of Rochefort, which replaced an older construction from 1669. A new ship door was also built to the design of Pierre Arnoul. This design version became on which the later ship doors were based, as well as the second ship door in the second dry dock from 1728, the Napoléon III as the second dock later became known. The first dry dock is known as Louis XV. [2]

In the Netherlands, the ship door, also based on the Louis XV design, was first used by Jan Blanken in the Jan Blanken dry dock, built between 1802 and 1804 in Hellevoetsluis. The original nave door was made of wood, but was later replaced by a steel version. Much later, the dock and ship door fell into disrepair. After the restoration in 2005, the whole is back in operation. The ship door was designed in detail by P. Glavimans and Breedtree. [3]

In Vlissingen, a wide lock also uses a ship's door, giving unlimited clearance height.

Gallery of the nave door in operation in Hellevoetsluis

Ship door in dry dock

The dock is filled

The dock is full

Emptying the ship's door

Sources, notes and/or references

? Article about ship door on binnenvaartinbeeld.com, accessed October 24, 2021
? Article about Rochefort on zaans-industrieel-erfgoed.nl, accessed October 24, 2021
? Original design in the collection geheugen.delpher.nl, visited on October 24, 2021