

Trolley for carrying and supporting tools for bolt tightening of a transmission tower

The process of transmission tower installation and assembly is a complex one, involving numerous stages and the use of various tools and equipment. Among these, one tool is a trolley used for carrying and supporting tools for bolt tightening. The trolley is vital for ensuring the stability and safety of the tower during and after its installation.

Previously, the problem was addressed using pre-installed rails or specific trolleys. However, these solutions had their limitations, which include the complex structure and high cost due to the various adjustment options and features incorporated into the design. This publication aims to introduce a new, innovative trolley design that addresses these issues, offering a simpler and more cost-effective solution.

The proposed invention is a trolley on wheels (Figure) that uses magnets (3) to attach itself to the tower wall, maintaining a small gap between itself and the tower wall using wheels that press against the tower wall. The use of low-friction wheels and magnets allows for smooth and stable operations during bolt pretension operations before the tower is transported for installation. Moreover, in a preferred embodiment, the trolley is supported by multiple wheels on the tower flange, preferably on the outer side of the bolts, to provide the best load support for the tool. The gap between the magnet and the tower is adjustable, and safety plates are incorporated on the inner side of the bolts to prevent accidental displacement of the trolley.

The key distinctions between this invention and previously known solutions include:

- the use of a trolley that drives on the tower flange to support tightening tools for pretension of flange fasteners and
- using magnets to ensure the trolley is attracted to the tower wall.

These differences result in a much simpler and cost-effective solution, focusing on the essential functionality without the need for excess adjustments and features.

In conclusion, this trolley for carrying and supporting tools for bolt tightening during tower installation and assembly provides a cost-effective and simple solution.

Further tools for this purpose are described in 2022ID24835DK: JPAJ202308 - S. 27-30 - ISBN: 978-3-910285-61-3 and in 2022ID24832DK: JPAJ202308 - S. 26 - ISBN: 978-3-910285-61-3

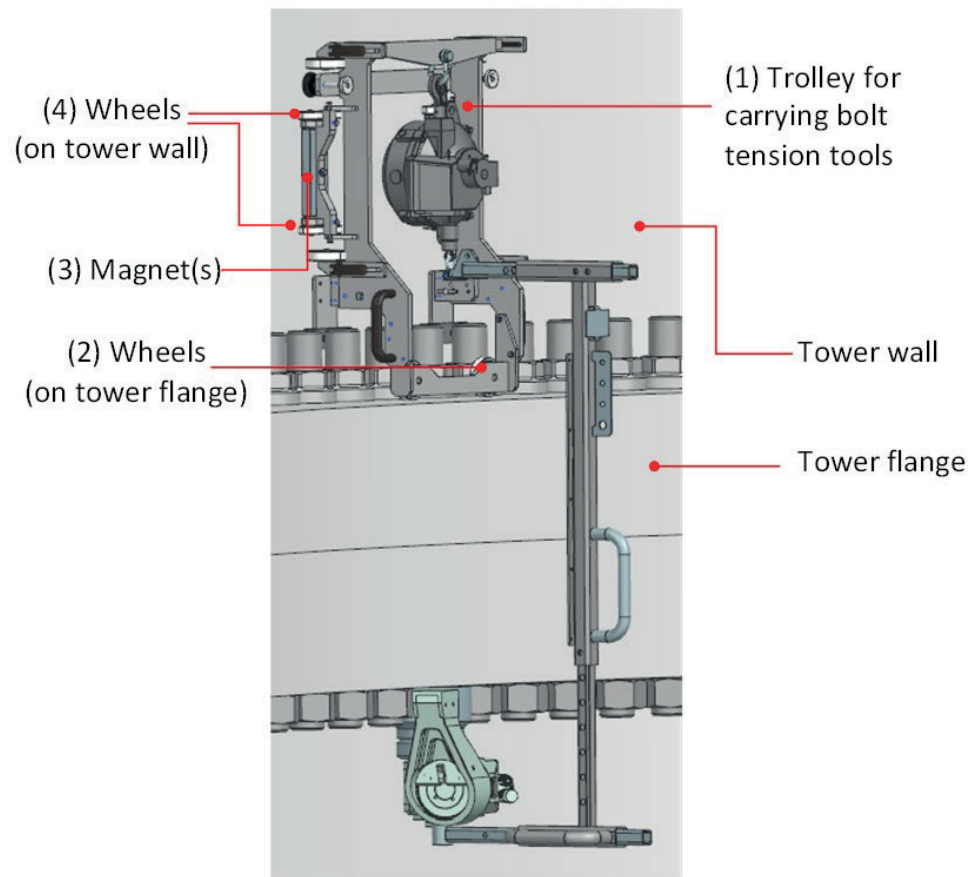


Figure: Embodiment of the trolley