Improvements in ships' berths, cattle pens, and other structures on board ship : specification of Reginald Harrison.

Contributors

Harrison, Reginald, 1837-1908.
Royal College of Surgeons of England

Publication/Creation

London : Patent Office Sale Branch, 1885.

Persistent URL

https://wellcomecollection.org/works/fnkxhrqe

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

From the Writer
R.H.

2.

A.D. 1885, 18*th February.* N° 2226.

SPECIFICATION

OF

REGINALD HARRISON.

IMPROVEMENTS IN SHIPS' BERTHS, CATTLE PENS, AND OTHER STRUCTURES ON BOARD SHIP.

ROYAL COLLEGE OF SURGEONS OF ENGLAND
-1 OCT 92
LIBRARY

LONDON:
PUBLISHED AND SOLD AT THE PATENT OFFICE SALE BRANCH,
38, CURSITOR STREET, CHANCERY LANE, E.C.

Price 8d. 1885.

ROYAL COLLEGE OF SURGEONS OF ENGLAND
-1 OCT 92
LIBRARY

A.D. 1885, 18th *February.* N° 2226.

PROVISIONAL SPECIFICATION.

Improvements in Ships' Berths, Cattle Pens, and other Structures on Board Ship.

I, Reginald Harrison, of 38 Rodney Street, Liverpool, in the county of Lancaster, Fellow of the Royal College of Surgeons, do hereby declare the nature of my said invention for "IMPROVEMENTS IN SHIPS' BERTHS, CATTLE PENS, AND OTHER STRUCTURES ON BOARD SHIP" to be as follows:—

This invention has for its object the increase of comfort or the lessening of the discomfort of passengers, horses, cattle, and the like at sea.

In carrying out my invention I support the berths, horse-boxes, and pens for cattle, sheep, and other animals on trunnions or their equivalents at each end, at points somewhat above the centre of gravity of the combined structure and its occupant. To effect this without the occupant receiving a pendulous motion, and to cause the suspension line and the centre line of the occupant or occupants to approximately coincide, I weight the lower side of the pen, berth or horse-box in any convenient manner. By this means, while the centre line of the occupant is nearly on the suspension line, the centre of gravity of the entire mass is much below the said suspension line. The berth or other structure is always therefore strongly impelled to find its own level, and stand with its cross section in one constant position relative to the vertical, no matter at what angle the ship may roll.

Dated this 17th day of February 1885.

W^M P. THOMPSON & Co.,
Of 6, Lord Street, Liverpool, and
323, High Holborn, London,
Patent Agents for the Applicant.

[*Price* 8*d.*]

COMPLETE SPECIFICATION.

Improvements in Ships' Berths, Cattle Pens, and other Structures on Board Ship.

I, Reginald Harrison, of 38 Rodney Street, Liverpool in the county of Lancaster, Fellow of the Royal College of Surgeons do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has for its object the increase of comfort or the lessening of the discomfort of passengers, horses, cattle, and the like at sea.

The invention is best explained by the aid of the accompanying drawings, which set forth an apparatus for supporting a berth on my principle. The cattle pens are supported in precisely similar manner, the only difference being that the apparatus is made rather stronger to allow for the increased weight, and as the centre of gravity is higher with a beast standing up than with a man lying down, the floor of the pen is relatively to the centre of oscillation, considerably lower than the surface of the mattress in the berth. It is therefore only necessary to describe my invention in relation to the berths to enable those skilled in the art, to adapt it to the other structures to which it is applicable.

Referring to the drawings;

Figure 1, is a vertical side elevation of the end of the berth, and its supporting mechanism.

Figure 2, section through A. B. Figure 3.

Figure 3 vertical longitudinal section through centre line.

In these C is the bottom or floor of the berth, D end of same, E a stout projecting pin preferably of iron, steel or brass, secured to the end of the berth in any convenient manner preferably by bolts and flanges, F a circular flange on the end of the berth concentric with the trunnion or pin E. In the drawings E and F are shown formed in one casting bolted to the end of the berth, which in light structures will be found a convenient form. They may however be made independently one of the other; G a series of rollers or runners free to revolve on their spindles H, and bearing against the flange F. It will be observed that these rollers are unequally spaced, being closer together at the top, as the greatest strain comes there. I casting fixed into the wall of the stateroom preferably from the outside as shewn. If desirable, as in the case of a series of berths, end to end with only a partition between, this casting can be formed with a flat surface, and simply bolted to the partition. J handle or boss on said casting, K screw pressing against the end of E and thus keeping the flange F from coming in contact with the partition or casting I. At one end of the berth, preferably at the head, is fixed a bolt L, and in the casting I, or other plate affixed for the purpose is a series or ring of holes *b* into which the point of the bolt L can be shot to retain the berth steady in any given position. It is especially useful when the occupant is getting into the berth.

The mode of action is as follows.

The berth is fitted up as shewn. It is temporarily bolted at L by the bolt and the occupant gets in, and withdraws the bolt. The centre of gravity of the berth and its occupant being below the centre of oscillation (E K) the berth rotates with the motion of the vessel and remains level laterally no matter how much the vessel may roll. If desirable, the berth could be suspended by a small solid trunnion at E in ball bearings (or other antifriction bearings capable of acting in a similar manner) By this means while the centre line of the occupant is nearly on the suspension line, the centre of gravity of the entire mass is much below the said suspension line. The berth or other structure is always therefore strongly impelled to find its own level, and stand with its cross section in one constant position relative to the vertical, no matter at what angle the ship may roll.

Having now particularly described and ascertained the nature of my said Invention, and in what manner the same is to be performed, I declare that what I claim is

1st The improvements in ship's berths, cattle pens, and other structures on board ship, which consists in supporting the structure on a trunnion or its equivalent at each end on a line passing above the centre of gravity of the structure, but at about the centre of gravity of the occupant, substantially as described.

2nd The apparatus for supporting ship's berths cattle pens, and other structures on board ship, substantially as described.

Dated this 17th day of November 1885.

W^M P. THOMPSON & Co.,
Of 6, Lord Street, Liverpool, and
323, High Holborn, London,
Patent Agents for the Applicant.

LONDON: Printed by Eyre and Spottiswoode,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

1885.

A.D. 1885. Feb. 18. Nº 2226.
HARRISON'S Complete Specification.

(1 SHEET)

FIG. 1.

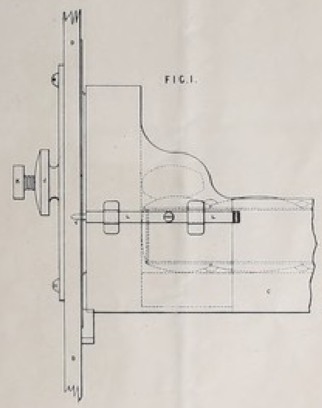


FIG. 3.

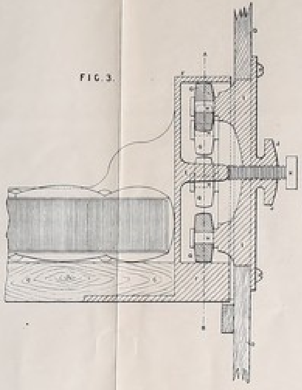
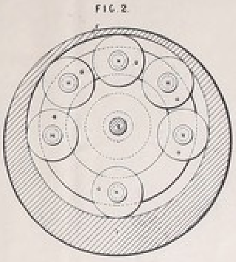


FIG. 2.



London: Printed by Eyre and Spottiswoode,
Printers to the Queen's most Excellent Majesty. 1885.

Malby & Sons, Photo-Litho.

ROYAL COLLEGE OF SURGEONS OF ENGLAND
-1 OCT 92
LIBRARY