No. 622,993. Patented Apr. 11, 1899.

# A. N. CHAMBERLAIN.

## BERTH.

(Application filed Nov. 7, 1898.)

(No Model.) 4 Sheets—Sheet 1.

*Fig. 1.*

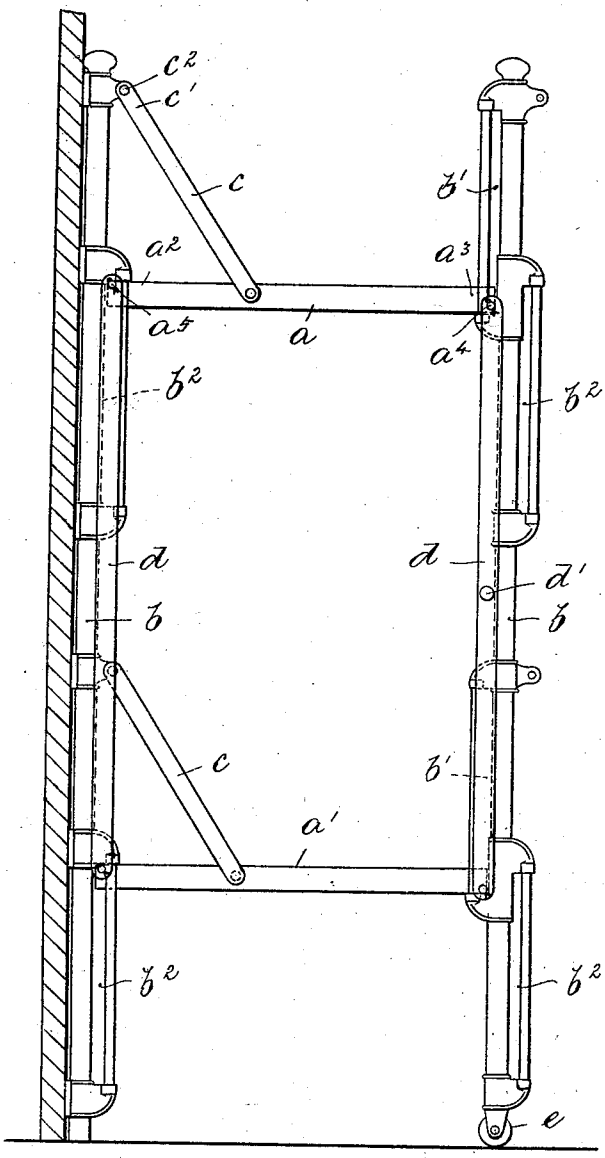
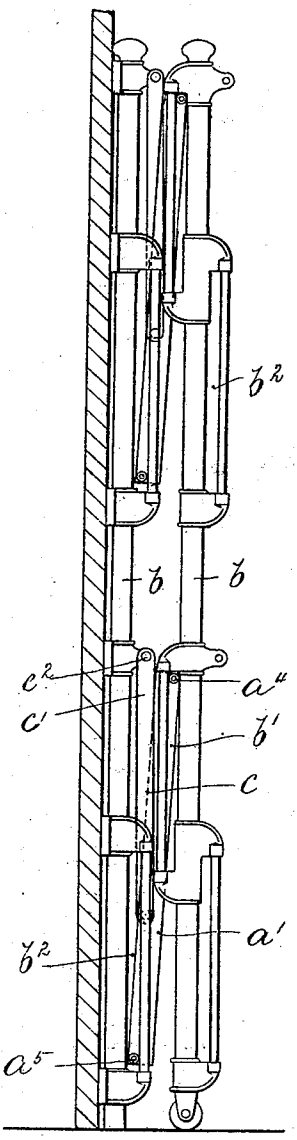



*Fig. 2.*




WITNESSES

Bruce D. Elliott.

INVENTOR Arthur N. Chamberlain

By James L. Norris.

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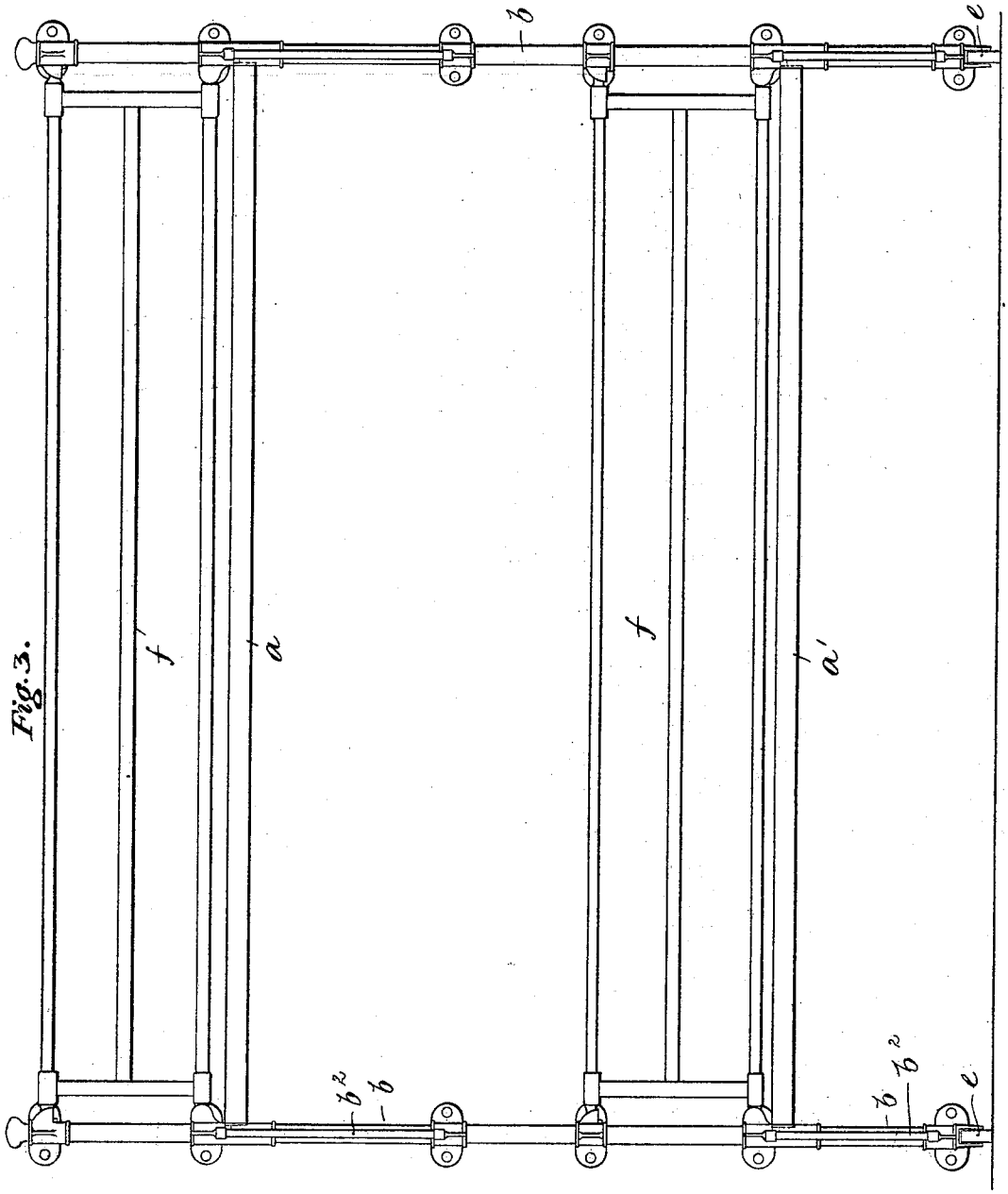
(No Model.) 4 Sheets—Sheet 2.

Fig. 3.




WITNESSES

H. B. Keeler

Bruce D. Elliott.

INVENTOR Archer N. Chamberlain

By James L. Norris.

Atty

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BERTH.

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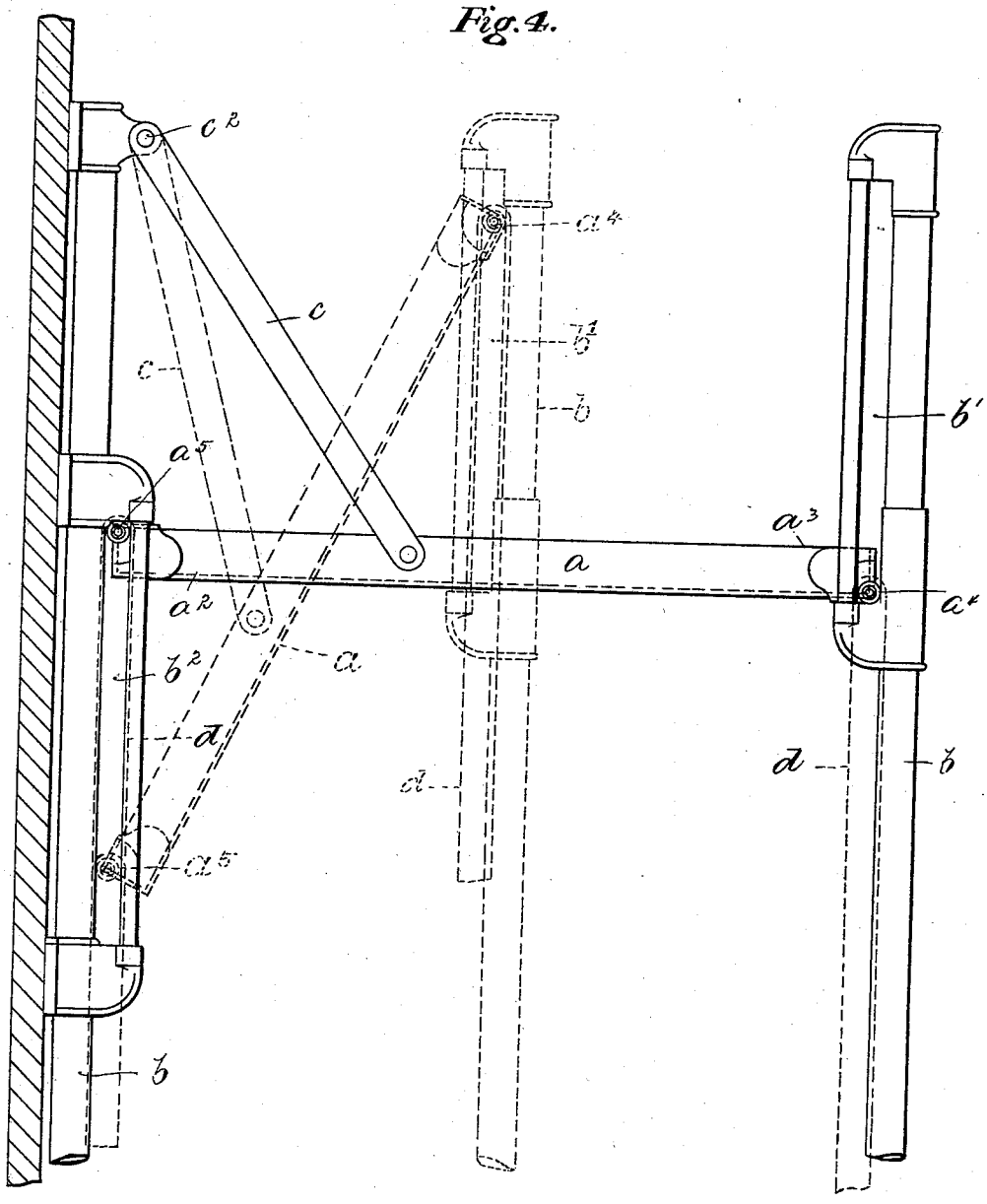
(No Model.) 4 Sheets—Sheet 3.

*Fig. 4.*




WITNESSES

INVENTOR Arthur N. Chamberlain

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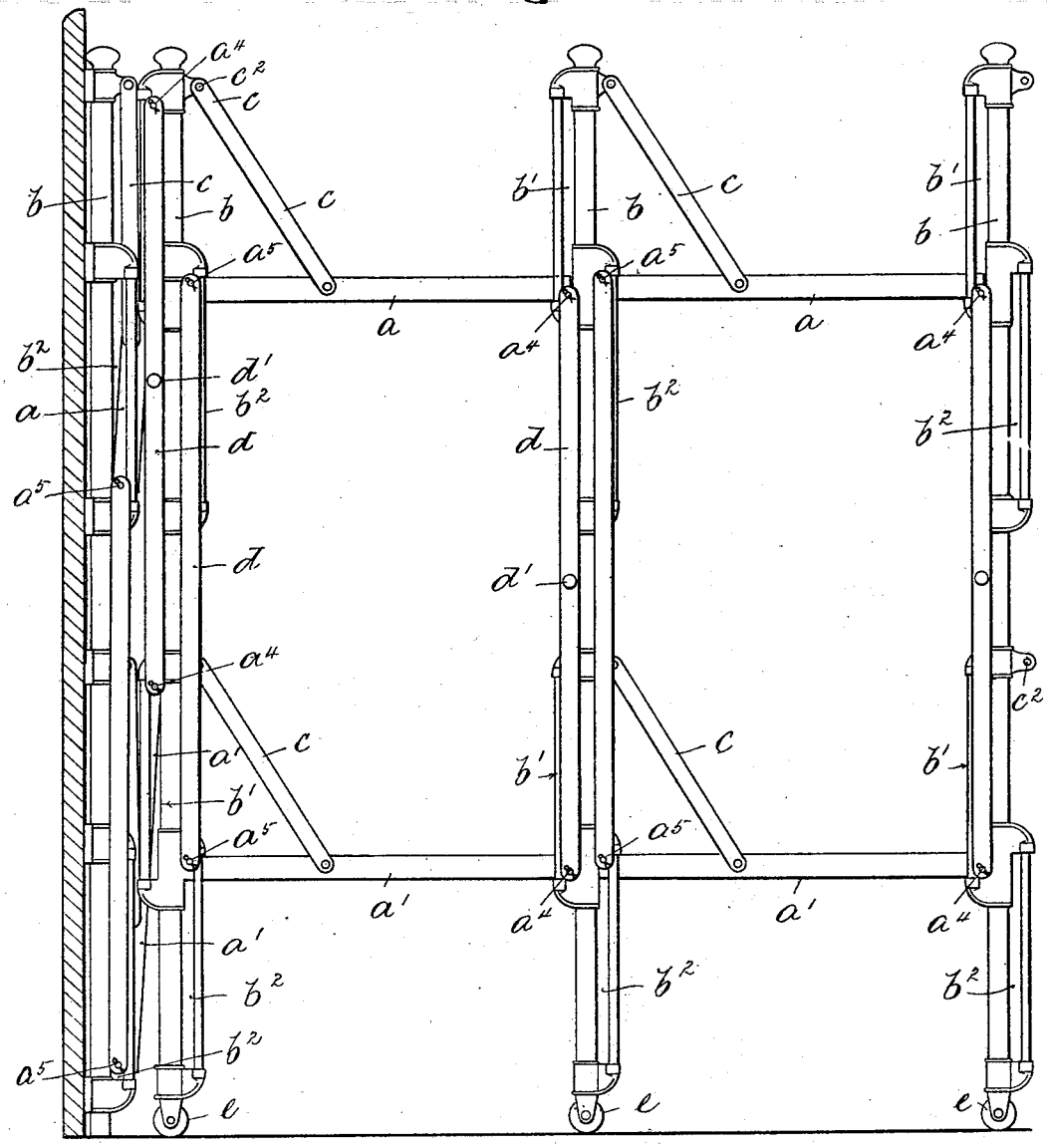
(No Model.) 4 Sheets—Sheet 4.

*Fig. 5.*




WITNESSES

F. B. Keeler

Bruce D. Elliott

INVENTOR Arthur N. Chamberlain

By James L. Norris

Atty

# UNITED STATES PATENT OFFICE.

ARTHUR NEVILLE CHAMBERLAIN, OF HIGHBURY, MOORGREEN, ENGLAND, ASSIGNOR TO THE HOSKINS & SON, LIMITED, OF BIRMINGHAM, ENGLAND.

## BERTH.

SPECIFICATION forming part of Letters Patent No. 622,993, dated April 11, 1899.

Application filed November 7, 1898. Serial No. 695,769. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR NEVILLE CHAMBERLAIN, a subject of the Queen of Great Britain, residing at Highbury, Moorgreen, in the county of Worcester, England, have invented certain new and useful Improvements in Berths, of which the following is a full, clear, and exact specification.

This invention has relation to collapsible or shut-up sleeping-berths for ships and analogous purposes, also to collapsible bedsteads and cots, and has reference primarily to ships' sleeping-berths of that type which are arranged in blocks or tiers and supported by uprights disposed in series of ranks adapted to be collapsed or closed together in succession for folding up the berths, and also of being extended individually and in succession when required for use, and also in which the berth-frames themselves are employed for bracing together the said uprights and preserving their parallelism both when collapsed and when extended.

The present invention consists in a new construction of such berths in which the rectangular berth-frames adapted to support the bedding are provided at the extreme ends of their sides with outstanding and rollered studs confined and working within vertical races carried by the uprights and with the said frames supported and partly balanced by being pivotally hung from radius links or bars also carried by the said uprights.

Figure 1 of the accompanying drawings represents an end elevation of a collapsible sleeping-berth constructed according to this invention and shown distended or in position for use. Fig. 2 is another end view, but showing the parts in the positions they assume when the berth is closed or collapsed. Fig. 3 is a front elevation of Fig. 1. Fig. 4 represents, upon an enlarged scale, an elevation of the upper part of one end of the berth. In this view the parts are represented in full lines in their extended positions, while the dotted lines represent the same partially collapsed. Fig. 5 represents an end elevation of a block of three berths embodying these improvements, one of the said berths being shown collapsed and the other two extended.

The same letters of reference indicate corresponding parts in the several figures of the drawings.

In the arrangement shown each pair of berth-bottoms $a$ $a'$ are disposed in tiers one above another and are supported by a series of pillars $b$ in such a manner that each series of four comprehends a rectangular space within which the tier of two berths-frames are placed one above another. The inner and opposite edges or sides of the supports are provided with vertical races or slots $b'$ $b^2$, each of an inside range a little greater than one-half the breadth of the berth-frame and with the races $b'$ upon the one post of each pair coming above the plane of the berth-frame, while the race $b^2$ on the opposite post comes below it. The ends $a'$ of the berth-frame have at the opposite corners $a^2$ $a^3$ journaled or rollered studs $a^4$ $a^5$, which respectively engage and run within the upper and under races $b'$ $b^2$, and in the extended position the stud $a^4$ at the one side of the frame end comes at the bottom of the one race $b'$, while the other stud $a^5$ comes at the top of the race $b^2$ on the opposite post. The rectangular berth-frame is also pivotally hung from a pair of radius links or arms $c$, whose upper ends $c'$ are jointedly connected or pivoted at $c^2$ to those pillars or supports to which the races $b^2$ are fitted. The series of four uprights is thus cross-braced by the pair of berth-frames, which are themselves kept in place by the races and balanced by being suspended near their middles from the swinging radius-links, as aforesaid. A block or row of berths to any desired number may be made up by duplicating or multiplying this arrangement, as shown in Fig. 5, and it is understood that the foot ends of the uprights are provided with runners or rollers $e$, which run upon the deck, and that when it is required to collapse the berth-frames they are given a revolving motion around the ends of the radius-bars as pivots, which causes the pillars to approach one another or collapse, while preserving their parallelism. The berth-frames then fall into nearly vertical positions (see Fig. 2) parallel with but intermediate between the uprights, the ranks of which are collapsed into juxtaposition with one another. It is also proposed that the ends of the several berths of a tier should be vertically

braced by tie-bars *d*, which may have eyes taking onto the journal ends of the frames, which are thus caused to move rigidly and in unison. These bars may be provided with pulls *d'*, which conveniently are taken hold of for collapsing or extending the articulated structure.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. The combination in folding berths of two or more berth-frames one above another, uprights or pillars between which the frames are arranged, those upon one side having vertical races extending below, and the uprights on the other side having similar races extending above the frame the ends of which are provided with outstanding studs to move in said races, and radius-bars jointed to the end bars of the frame and to the uprights on one side, substantially as described.

2. In folding berths the combination with two or more berth-frames arranged one above another of a series of uprights or pillars arranged at the angles of said frames, those upon one side having vertical races extending below the frames and those upon the other side having similar races extending above the same to receive studs on the ends of said frames, radius-bars jointed to the end bars of said frames and to the uprights having races extending below them, and tie-bars having eyes to connect them to the studs, substantially as described.

3. In a folding berth, the combination with a rectangular berth-frame, of uprights or pillars arranged at the four angles of said frame, those upon one side having vertical races extending below and those on the other side having similar races extending above the frames to receive outstanding studs on the end bars of the latter, and radius-bars having their ends jointed above the berth to the uprights having races that extend below the frame, and their other ends jointed to the end bars of said frame near the middle of said end bars, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARTHUR NEVILLE CHAMBERLAIN.

Witnesses:
ARTHUR T. SADLER,
WILLIAM H. LONG.