

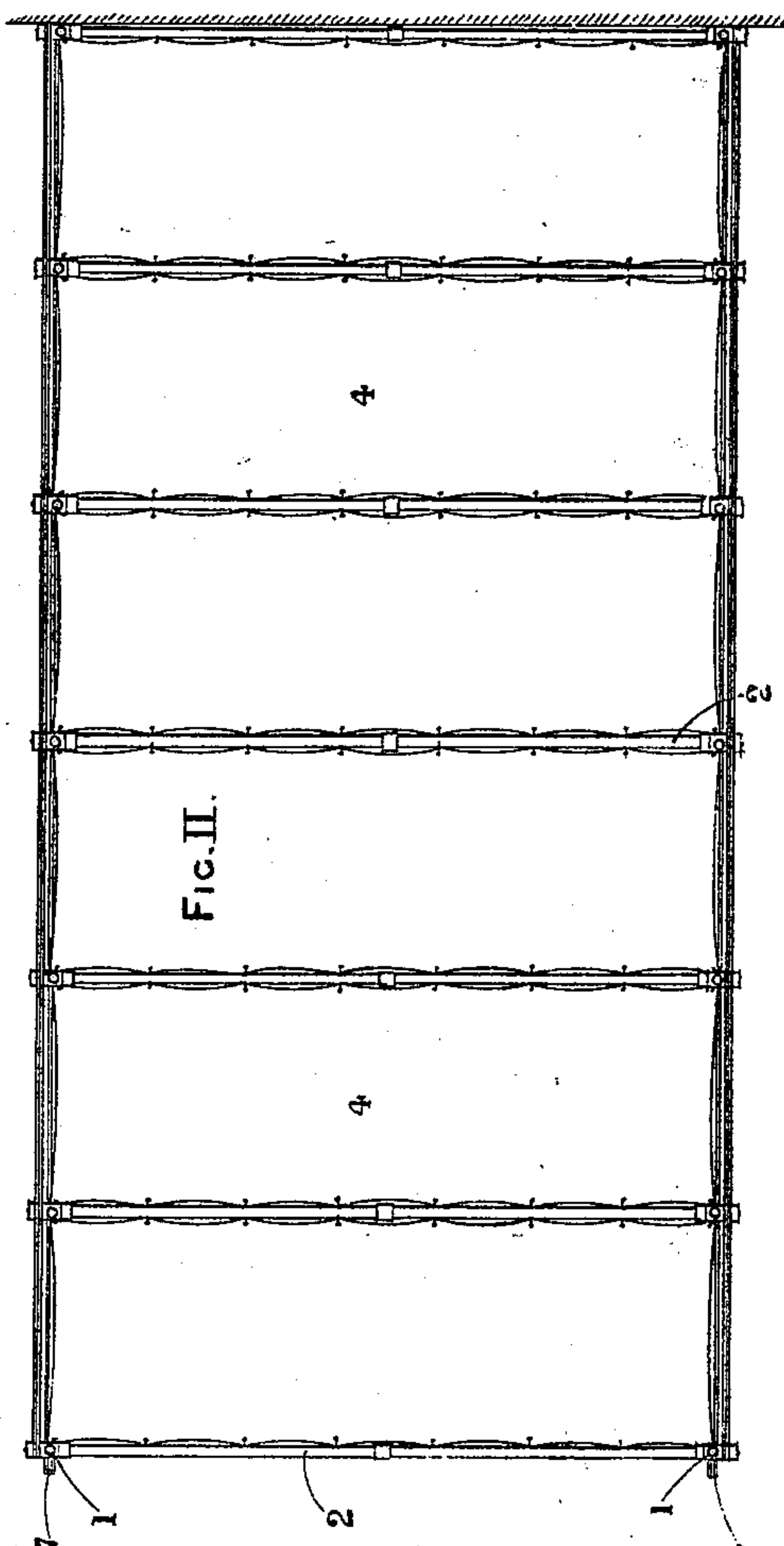
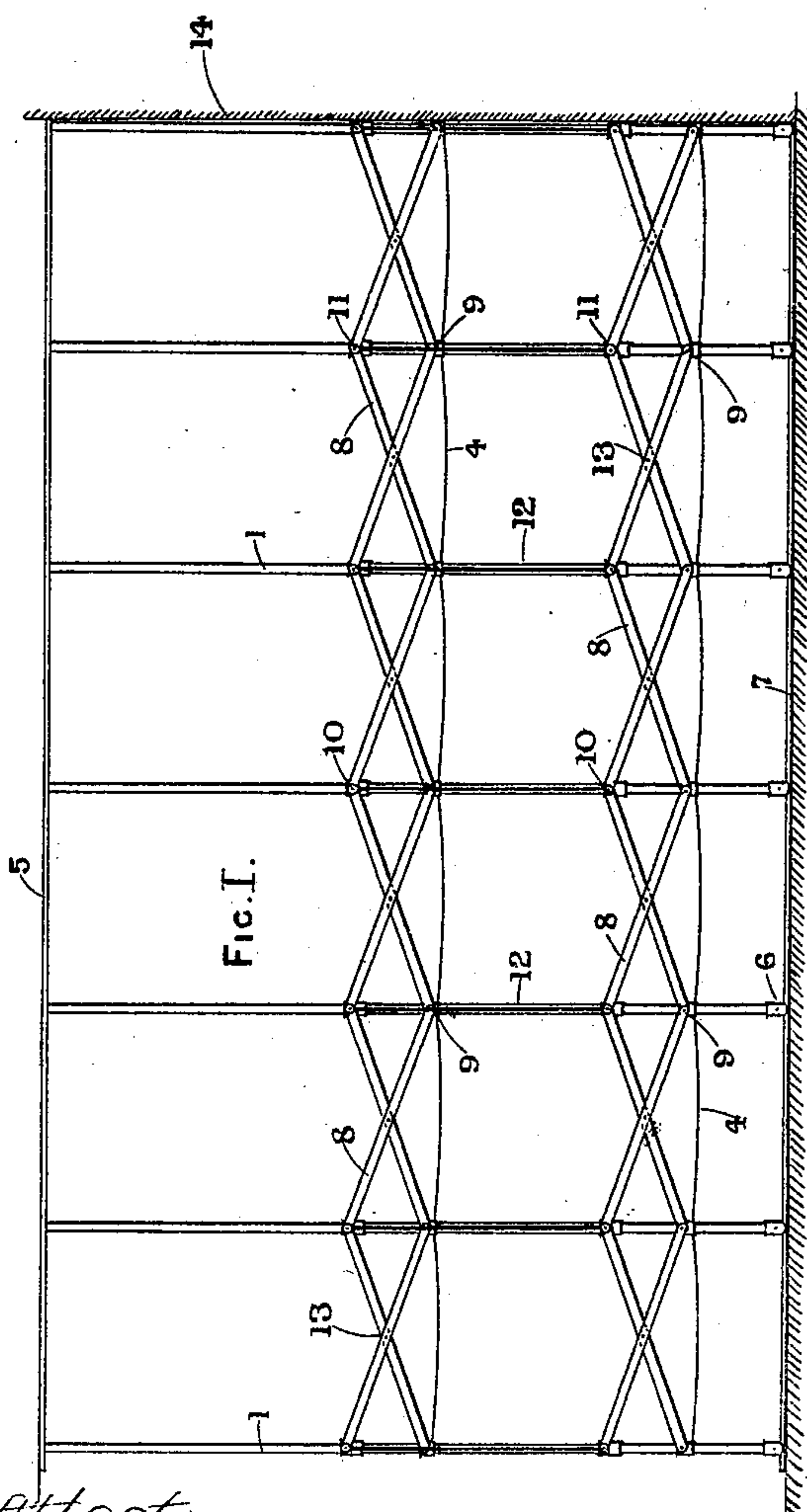
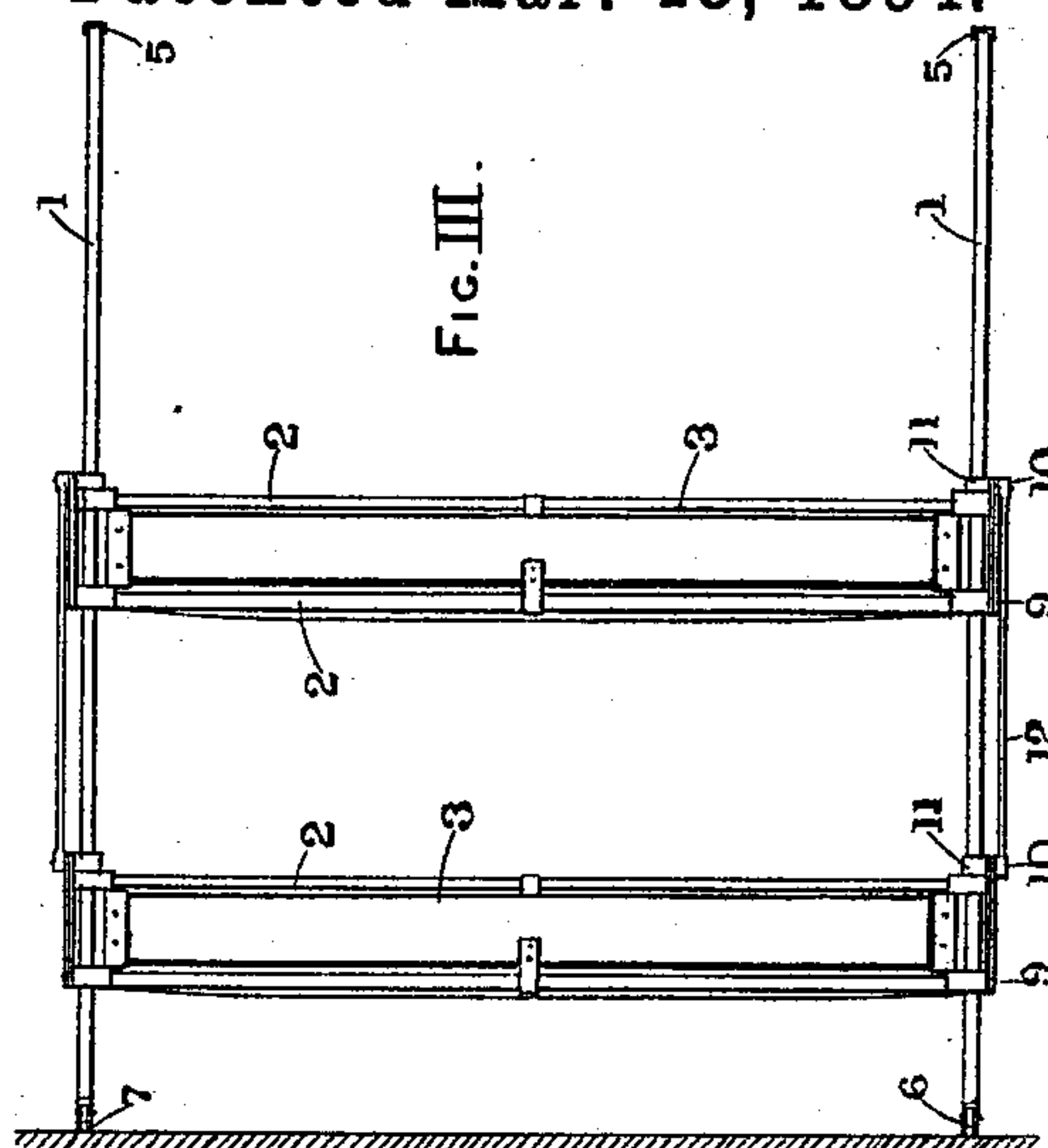
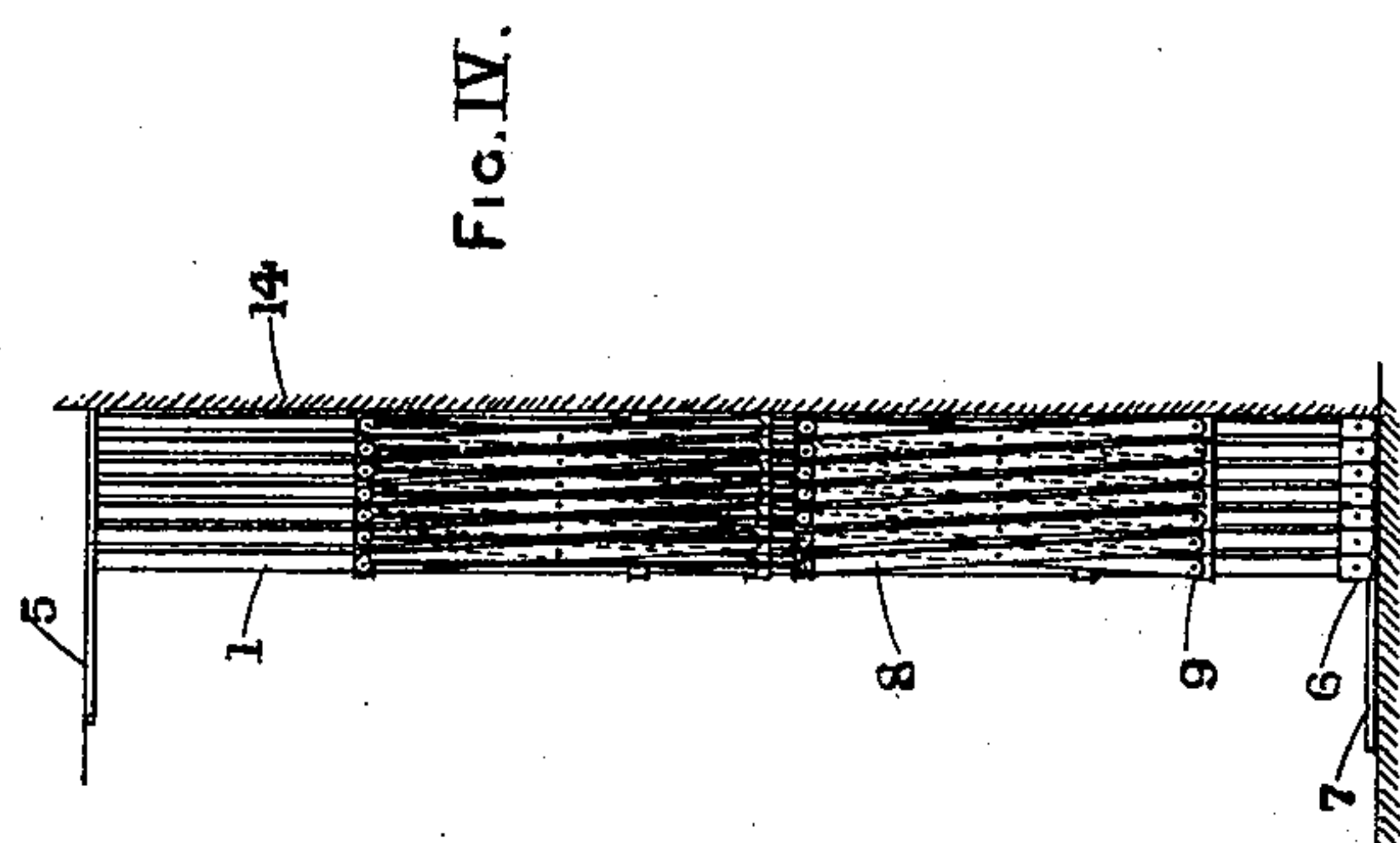
(No Model.)

5 Sheets—Sheet 1.

A. H. BAIRD.
COLLAPSIBLE SLEEPING BERTH.

No. 516,514.

Patented Mar. 13, 1894.



Attest
Walter M. Mason
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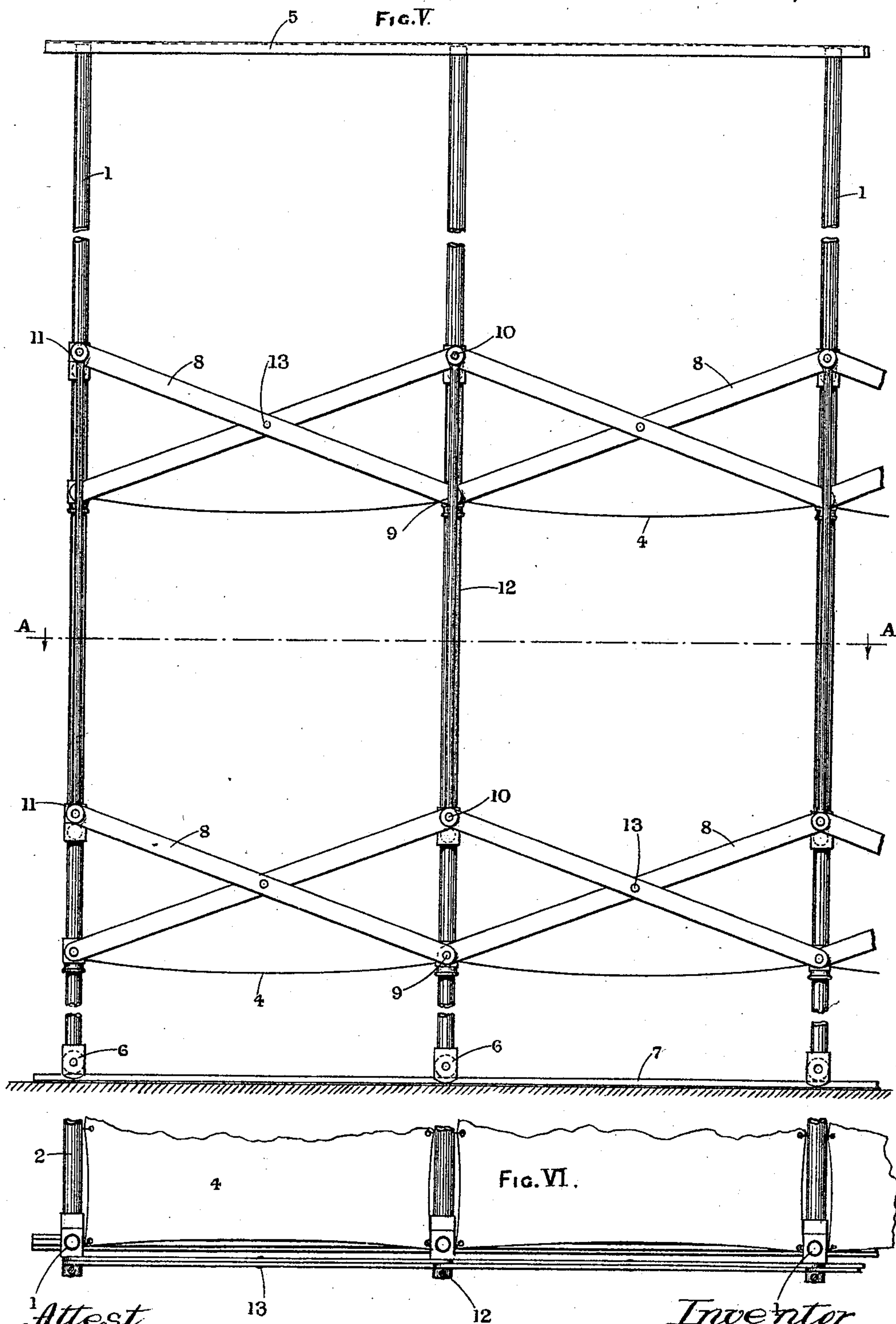
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A. H. BAIRD.
COLLAPSIBLE SLEEPING BERTH.

No. 516,514.

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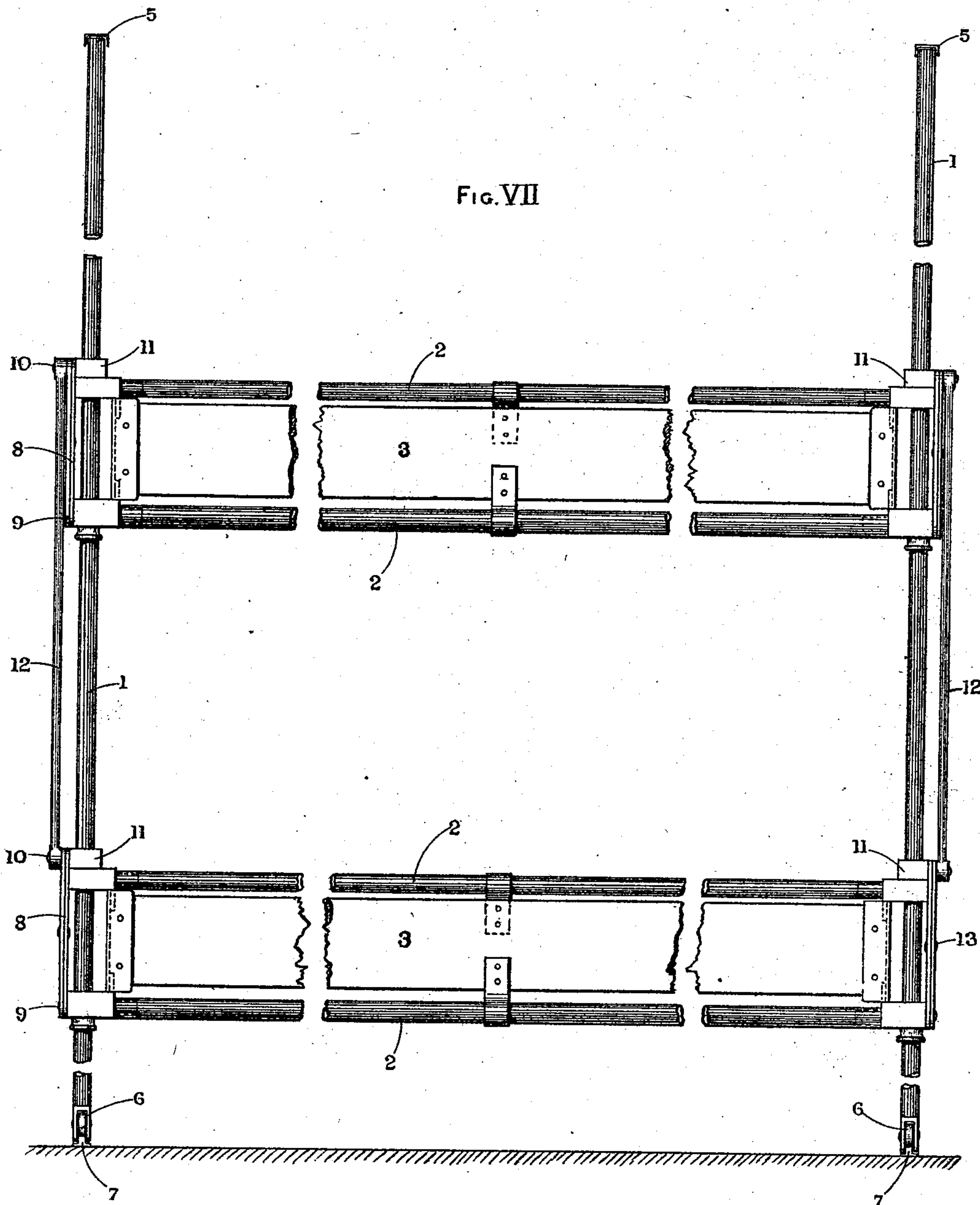
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A. H. BAIRD.
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No. 516,514.

Patented Mar. 13, 1894.

FIG. IX.

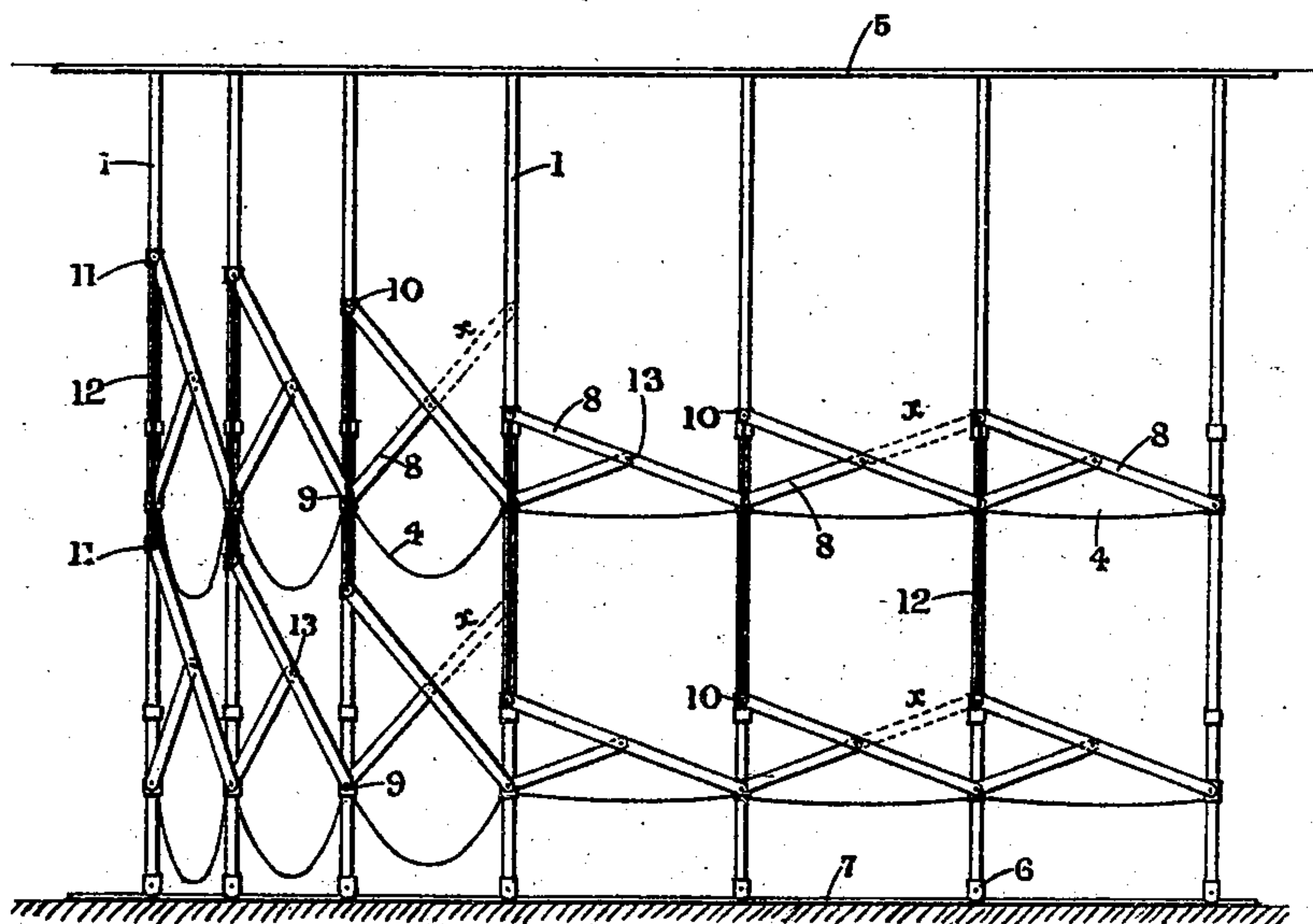
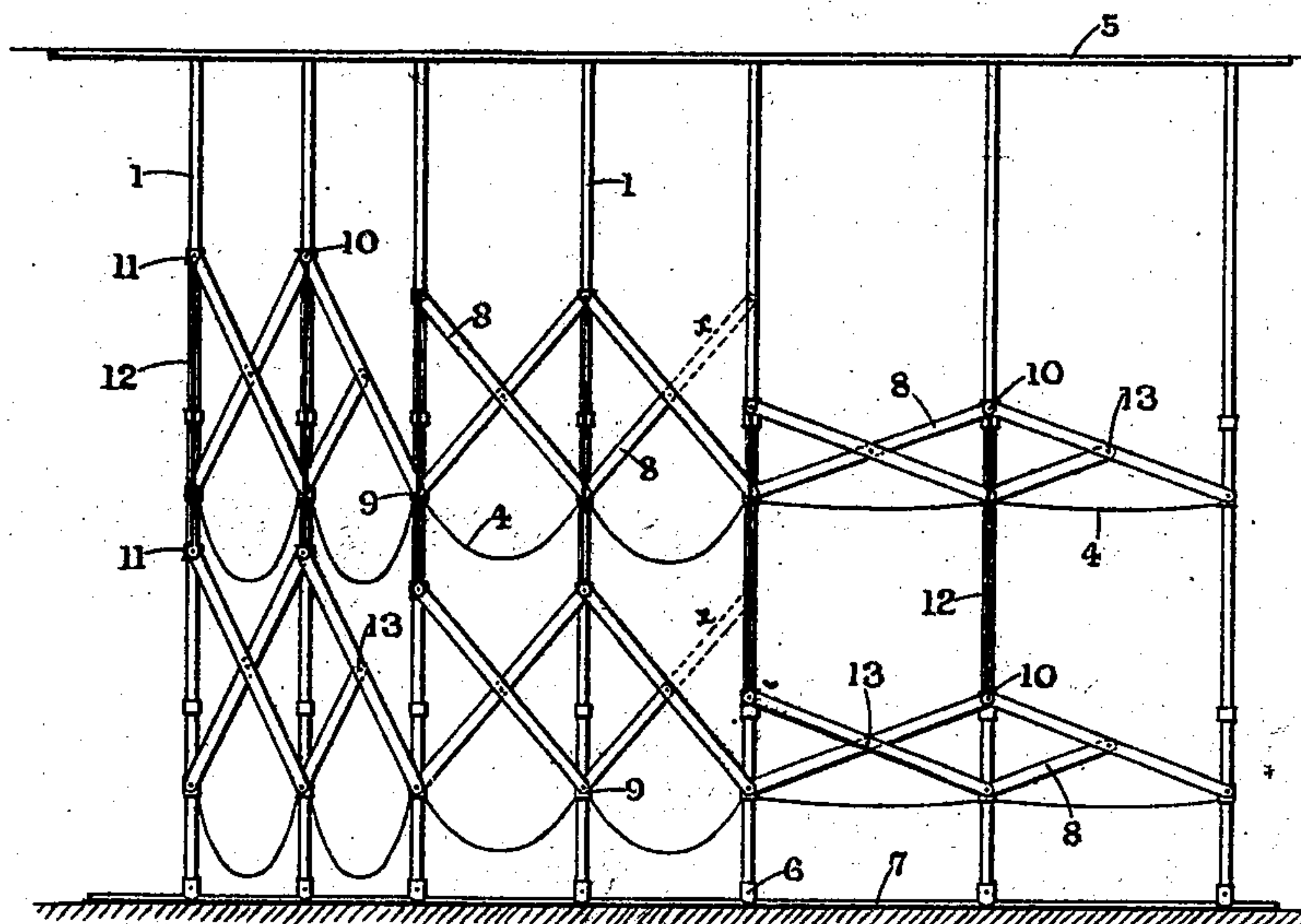


FIG. VIII.



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FIG. X.

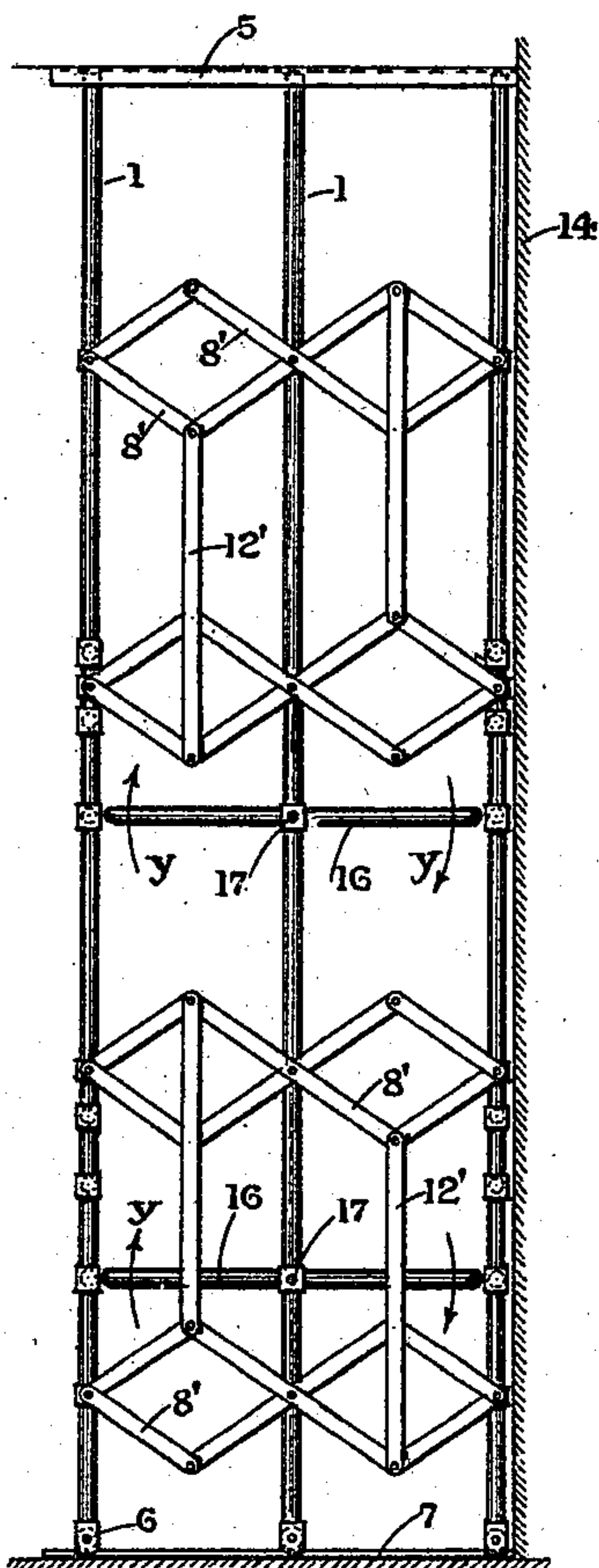


FIG. XI.

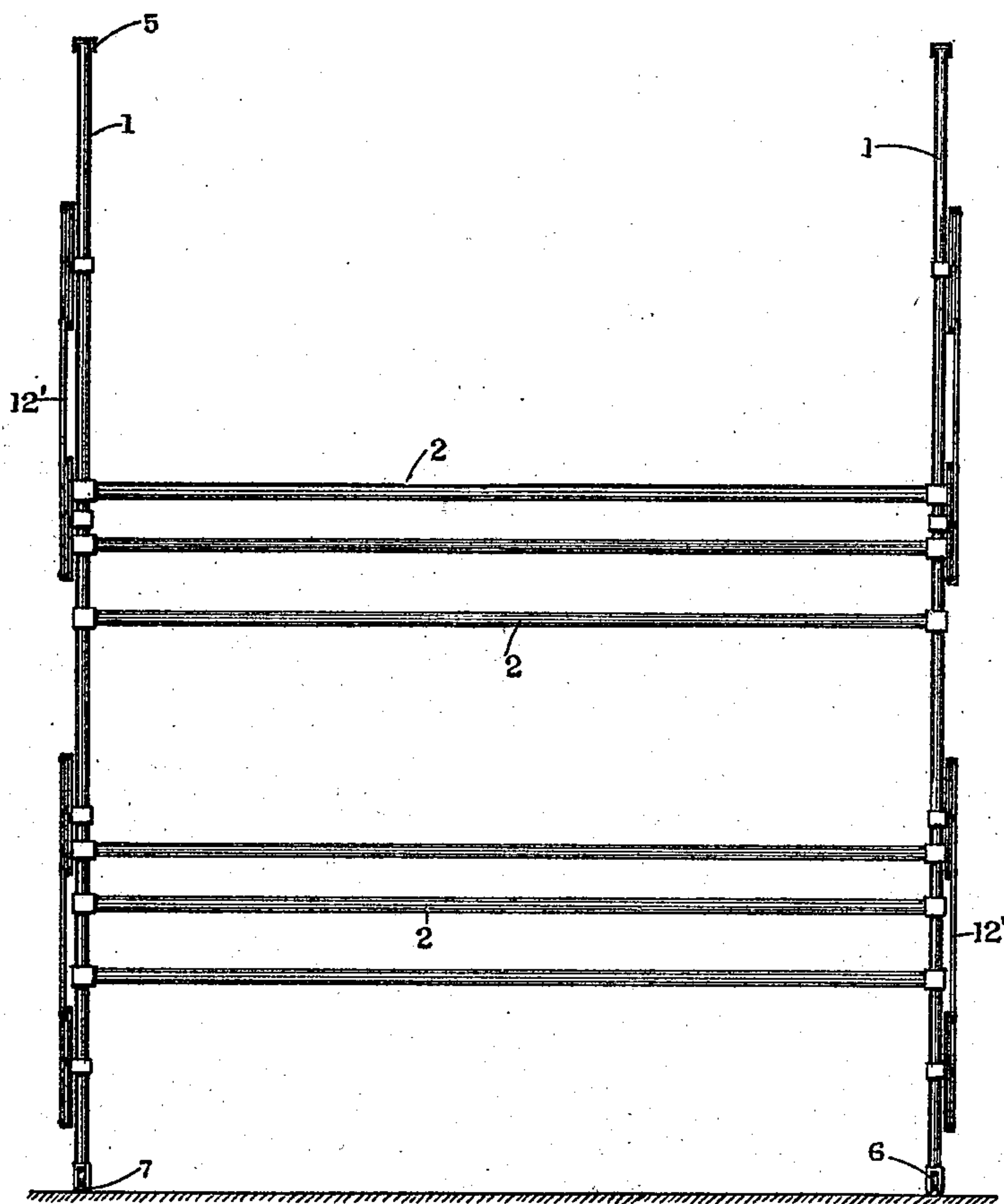
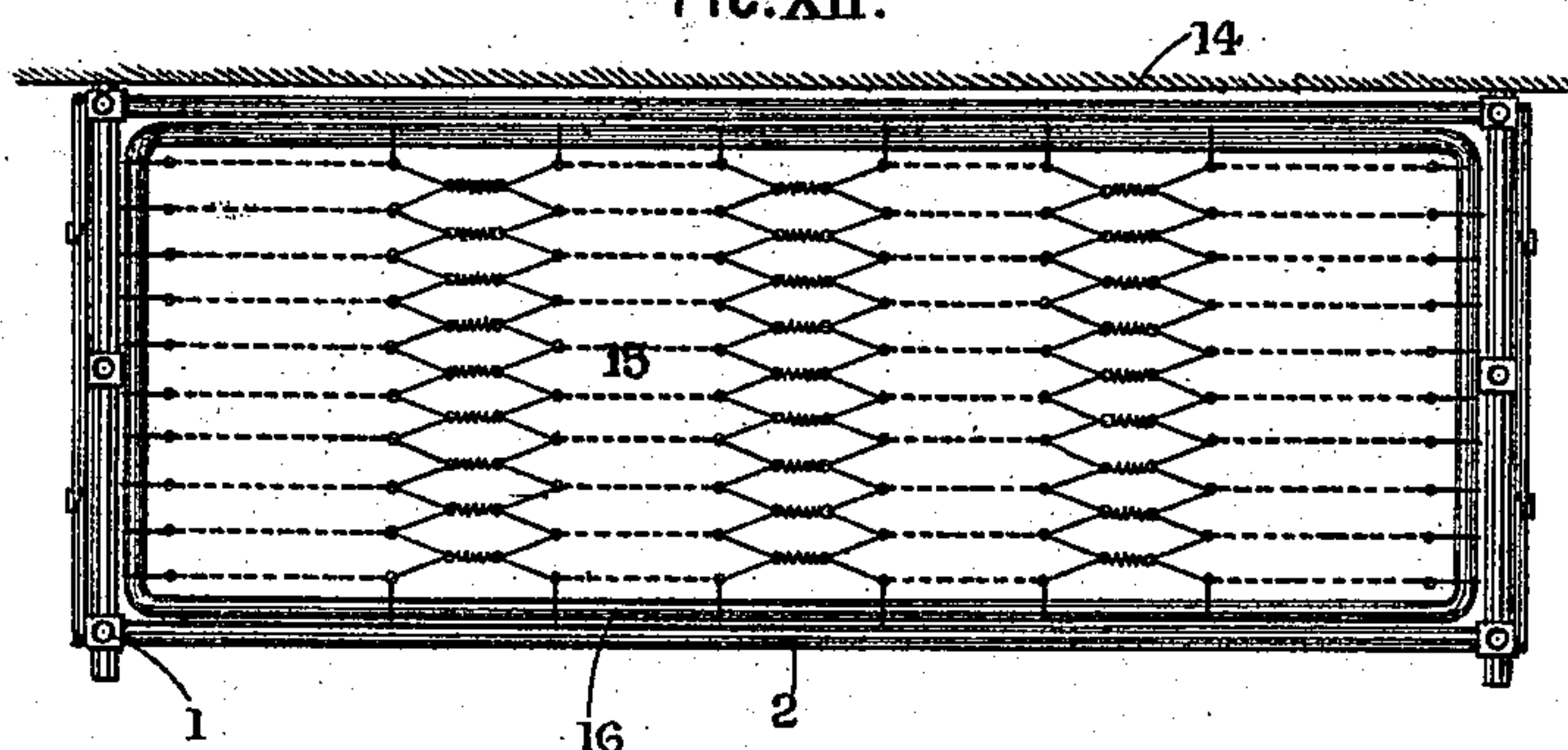


FIG. XII.



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UNITED STATES PATENT OFFICE.

ANDREW H. BAIRD, OF LIVERPOOL, ENGLAND.

COLLAPSIBLE SLEEPING-BERTH.

SPECIFICATION forming part of Letters Patent No. 516,514, dated March 13, 1894.

Application filed January 21, 1893. Renewed January 15, 1894. Serial No. 496,997. (No model.)

To all whom it may concern:

Be it known that I, ANDREW HENRY BAIRD, a subject of the Queen of Great Britain, residing in Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Collapsible Sleeping-Berths, of which the following is a specification.

This invention has reference to collapsible sleeping berths and is specially applicable to berths used on board ships and in other places where the space occupied by the berths when in use is sometimes required for other purposes, as for example in the case of vessels carrying steerage passengers, where the space occupied by the berths in the outward passage may be required for cargo on the homeward passage.

According to my invention I make berths collapsible into small space by adopting the following construction:—I provide a number of vertical uprights arranged in two parallel ranks and guided at the top and bottom, the opposite uprights being connected by cross bars which form the sides of the berth and are adapted to carry the mattress or canvas which forms the bed. The uprights collapse together each in the plane of its own rank and the adjacent uprights of each rank are articulated together so that as they collapse they are constrained to preserve their parallelism. The articulation of the uprights is modified according to whether the berths have to be entered from the sides or the ends, and also according to whether it is desired that the berths of the set shall be collapsed individually or collectively.

In the accompanying drawings which illustrate my invention, Figures I, II and III are respectively an end elevation, plan and side elevation of a set of six berths adapted to be entered at their ends, the set being shown extended ready for use; according to this arrangement the set is adapted to be collapsed or extended collectively, and Fig. IV shows the set collapsed. Figs. V, VI and VII show details of this arrangement to a larger scale, Fig. V being an end elevation, Fig. VI a sectional plan on the line A. A. of Fig. V and Fig. VII a side elevation. Figs. VIII and IX are end elevations analogous to Fig. I and show modifications in the articulation of the uprights effected by omitting portions of the

leakage, the result being that in the arrangement shown in Fig. VIII the berths are adapted to be collapsed or extended in pairs and in that shown in Fig. IX the berths are adapted to be collapsed or extended individually; in the case of both Figs. VIII and IX some of the berths are shown extended and some partially collapsed. Figs. X, XI and XII are respectively end elevation, side elevation and plan of a set of berths adapted to be entered from the side.

Throughout the drawings the same parts are indicated by the same reference figures.

Referring first to Figs. I to VII inclusive, 1 are series of upright bars, preferably tubular as shown, and arranged in two ranks, one at the head and the other at the foot end of the berths. Each upright of the head rank is connected to the corresponding upright of the foot rank by the horizontal bars 2 which are also preferably tubular. These horizontal bars, in conjunction with the lee-boards 3 which are secured to them, form the sides of the berths and the bottoms are formed by the stout sheets of canvas or other suitable material 4 which are lashed to the lower horizontal bars of each berth. The upper ends of the uprights slide freely along and are guided by the upper tracks 5, fixed to the over-head deck beams or to the deck itself. The lower ends are provided with wheels 6 which run along and are guided by the lower tracks 7; these lower tracks may be portable, and fixed to the deck when required, or they may be fixed thereto permanently, in which case they are preferably recessed below the surface. In order to preserve the parallelism of the uprights as they are moved along the tracks, they are articulated together by two systems of diagonal pivoted links 8. The lower ends of the links are pivoted on pins 9 fixed on the uprights; the upper ends of the links are pivoted on the pins 10 formed on loose sleeves 11 adapted to slide along the uprights, and the pins 10 of the two systems (upper and lower) are respectively connected by the connecting rods 12. The diagonal links are also pivoted together centrally by the pivots 13. The uprights at the extreme right (Fig. I) are secured to a bulk-head 14 or other fixed support and in order to collapse the set of berths it is only necessary to move the uprights from

the left toward the right; the sliding sleeves 11 of both the upper and lower systems of diagonal links will ascend and the connecting rods 12 will insure the equable action of both systems so that the parallelism of the up-
 5 rights is preserved and they may be pushed up into contact as shown in Fig. IV, in which position they are retained by a suitable fastening.

10 It is clear that instead of fixing the end uprights as in Fig. I, any other pair may be fixed and the others collapsed from either side against them; or the set may be arranged to stand some distance from the bulk-head or
 15 ship's side when extended and when collapsed to be run along the tracks up to the bulkhead or ship's side as the case may be and then be fastened thereto.

In the arrangements shown in Figs. VIII and IX the construction is exactly similar to that already described except that in each case portions of the already described linkage are omitted as indicated by the dotted lines α . It will be observed that in Fig. I
 25 each connecting rod 12, pin 10 and sliding sleeve 11 are common to the linkages of the berths on each side of it and in consequence, as already stated, the berths can only be collapsed or extended collectively; in Fig. IX, by
 30 the omission of the parts marked α , the linkage of each berth is rendered independent of that of the others and consequently any berth can be collapsed or extended individually.

In Fig. VIII the modification as described with reference to Fig. IX is applied to each
 35 alternate berth only, the remaining berths being as in Fig. I, and as a consequence, the berths can be collapsed or extended in pairs.

Figs. X, XI and XII show a set of two berths adapted to be entered from the side and suitable for state rooms, railway carriages and the like; this form is intended to stand against a wall or bulkhead 14 to which the adjacent
 40 uprights are secured and against which the berths may be collapsed. As before, the uprights 1 with wheels 6 at their lower ends are guided above and below in the tracks 5 and 7 respectively and they are rigidly connected by the horizontal bars 2. The arrangement
 45 of the pivoted links 8' is somewhat different to that already described, their connecting

rods 12' lying between the uprights. The bottoms of the berths are, in this arrangement formed of spring mattresses 15 having rigid frames 16 pivoted centrally at 17 to the
 55 central uprights so that they can be swung into a vertical plane, as indicated by the arrows γ , when the berths are to be collapsed.

While I have described my invention with reference to its use on board ships, it is to be
 60 understood that it may be equally well applied in barracks, hotels, railway carriages or other places where economy of space is a consideration.

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

1. In collapsible berths, in combination;—the upright bars arranged in two ranks, the horizontal bars connecting opposite pairs of
 70 the said upright bars and forming supports for the bedding, the pivoted links articulating the upright bars of each rank, and the top and bottom guide tracks; substantially as described and illustrated.

2. In collapsible berths, in combination;—the upright bars arranged in two ranks, the horizontal bars connecting opposite pairs of
 80 the said upright bars and forming the supports for the bedding, the pivoted links articulating the upright bars of each rank, the connecting rods coupling the corresponding ends of said links, and the top and bottom guide tracks; substantially as described and illustrated.

3. In collapsible berths, the means for articulating the upright bars of the berths, which consist of two sets of pivoted links each link having one end pivoted to one of the said
 90 uprights and the other end guided by an adjacent upright, the corresponding guided ends of the pivoted links being coupled together by connecting rods; substantially as described and illustrated.

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

ANDREW H. BAIRD.

Witnesses:

ROBERT A. SLOAN,

J. E. LLOYD BARNES,

Both of 26 Castle St., Liverpool.