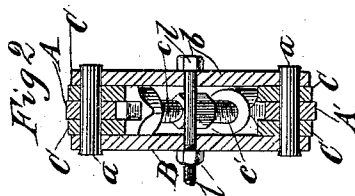
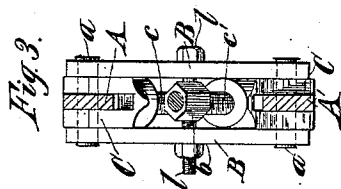
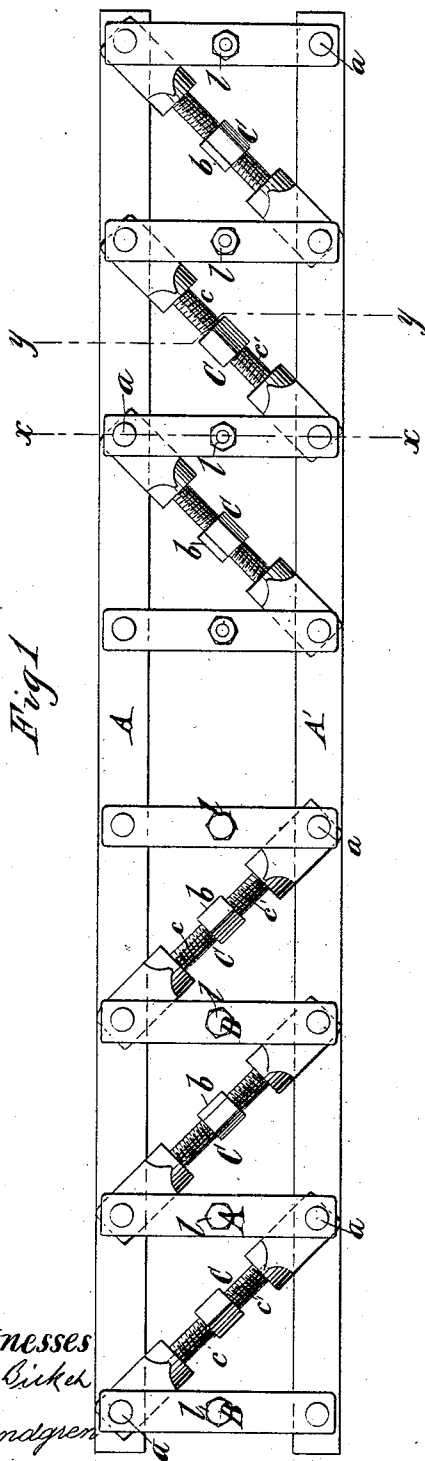


(No Model.)

A. OLSEN.
LIFTING TRUSS GIRDER.

No. 414,843.

Patented Nov. 12, 1889.



Witnesses
John C. Cickel
O. Lundgren

Inventor:
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UNITED STATES PATENT OFFICE.

ANDREAS OLSEN, OF EPHRAIM, UTAH TERRITORY, ASSIGNOR OF ONE-THIRD
TO JAMES C. PETERSON, OF SAME PLACE.

LIFTING TRUSS-GIRDER.

SPECIFICATION forming part of Letters Patent No. 414,843, dated November 12, 1889.

Application filed July 10, 1889. Serial No. 317,072. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS OLSEN, of Ephraim, in the county of San Pete, Territory of Utah, have invented a certain new and useful Improvement in Lifting Truss-Girders, of which the following is a specification.

I will describe my improvement in detail, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a side elevation of a truss-girder embodying my improvement. Fig. 2 is a vertical section thereof, taken on the line *x x*, Fig. 1. Fig. 3 is a vertical section thereof, taken on the line *y y*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A A' designate stretchers, which extend horizontally, and are preferably made of metal—such, for instance, as steel or iron.

B designates links extending between the stretchers A A', and pivotally connected thereto, as here shown by means of pivots *a*. I have shown bolts *l* connecting the links B.

C designates turn-buckles. These turn-buckles have bifurcated portions, as shown more clearly in Figs. 2 and 3, which portions are embraced between opposite ends of adjacent links B at the points of connection between the latter and the stretcher A A', and which embrace the stretchers A A'. The turn-buckles therefore extend obliquely between the stretchers. The pivots *a* extend, not only through the end portions of the links B and through the stretchers A A', but also through the bifurcated portions of the turn-buckles C, as shown more clearly in Fig. 2. The turn-buckles upon one portion of the truss-girder extend in opposite directions to those upon the other portion. By the means described it will be seen that the turn-buckles and the links are free to move independently of each other upon the pivots *a*.

Comprised in the turn-buckles C are screws having portions *c c'*, and intermediate of the portions *c c'* of the screws are formed or combined therewith hand-pieces *b*, here shown as octagonal. The screw-threads upon the portions *c c'* of the screws extend in reverse directions and engage screw-threaded apertures in the bifurcated portions of the turn-buckles. By grasping the hand-pieces *b* on

the screws the latter may be rotated in such manner as to cause the bifurcated portions of the turn-buckles to be moved nearer to or farther from each other. By varying the adjustment of the turn-buckles thus made possible the stretchers A A' may be moved nearer to or farther from each other, and may be bowed or curved to any desired extent in the same general direction.

When the screws are manipulated so as to bow the upper stretcher, the lower stretcher, owing to the reverse screw-threads of the screws and the links B, will follow the former into any position into which it may be adjusted.

By my improvement it is made possible to raise floors, ship-decks, or anything of a similar nature which through sagging has dropped below its proper level at or near its middle.

Of course it is to be understood that in order to cause the bowing or curving of the stretchers the manipulation of the turn-buckles is to be varied from about midway of the lengths of the stretchers outwardly toward their ends, the greatest expansion of the turn-buckles being of course nearer the ends of the stretchers.

During the manipulation of my improved truss-girder the same may be secured near its ends to any suitable supports, and in fact, after its proper manipulation, the same may be left thus secured in order to uphold proper position the flooring or whatever else it may be applied to.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A lifting truss-girder comprising two stretchers, links pivotally connected to said stretchers, and turn-buckles extending between said stretchers and pivotally connected thereto, substantially as and for the purpose specified.

2. A lifting truss-girder comprising two stretchers, links extending between the same pivotally connected thereto, turn-buckles pivotally connected to the stretchers and extending in reverse directions, said turn-buckles comprising screws provided with reverse screw-threads, substantially as specified.

ANDREAS OLSEN.

Witnesses:

ANDREW MORTENSON,
CHARLES WHITLOCK.