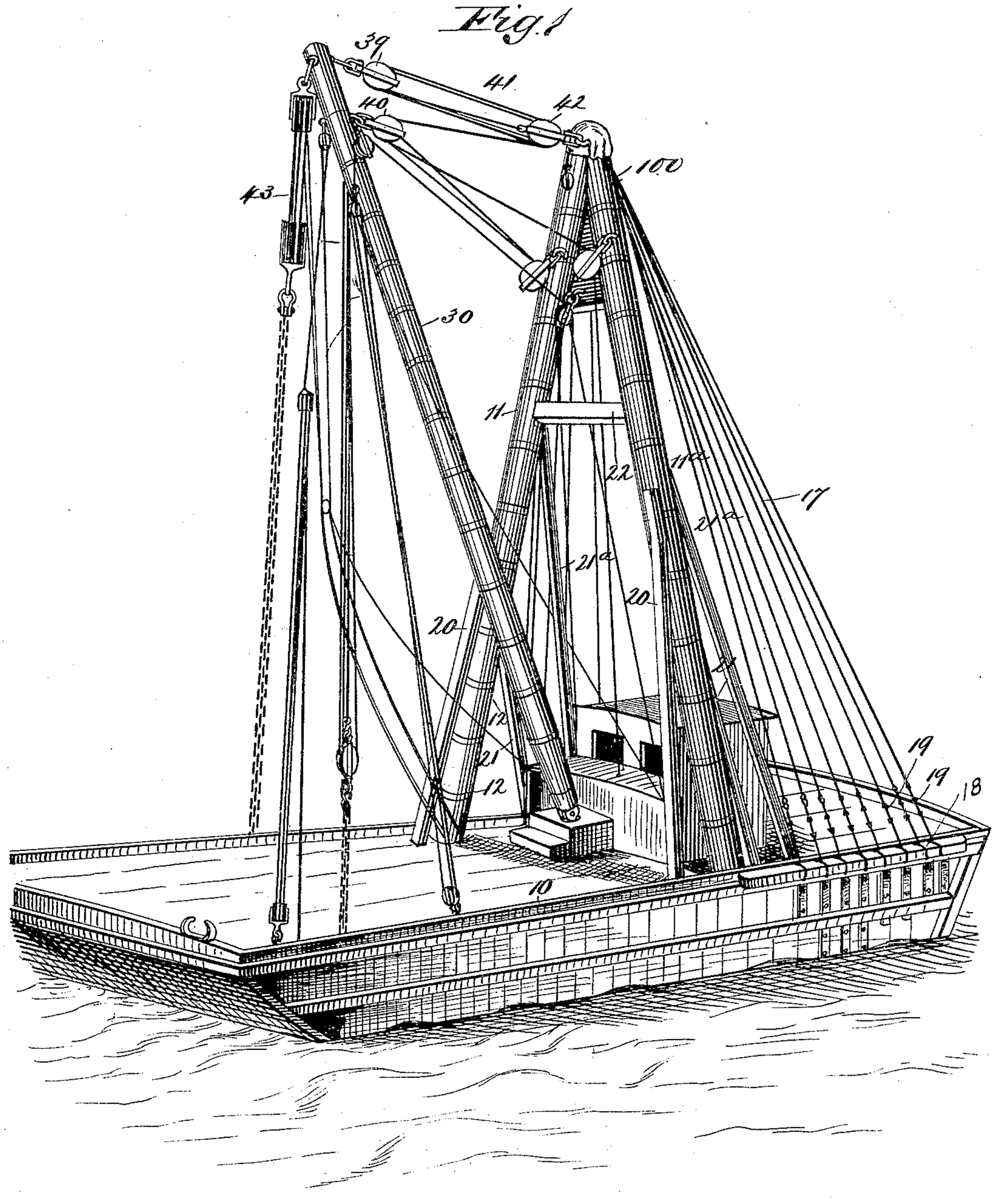
(No Model.) 4 Sheets—Sheet 1.

W. E. CHAPMAN.

DERRICK.

No. 411,214. Patented Sept. 17, 1889.

Fig. 1



WITNESSES:

Francis Md Ardle.

C. Sedgwick

INVENTOR:

W. E. Chapman

BY Munn & Co

ATTORNEYS.

(No Model.)

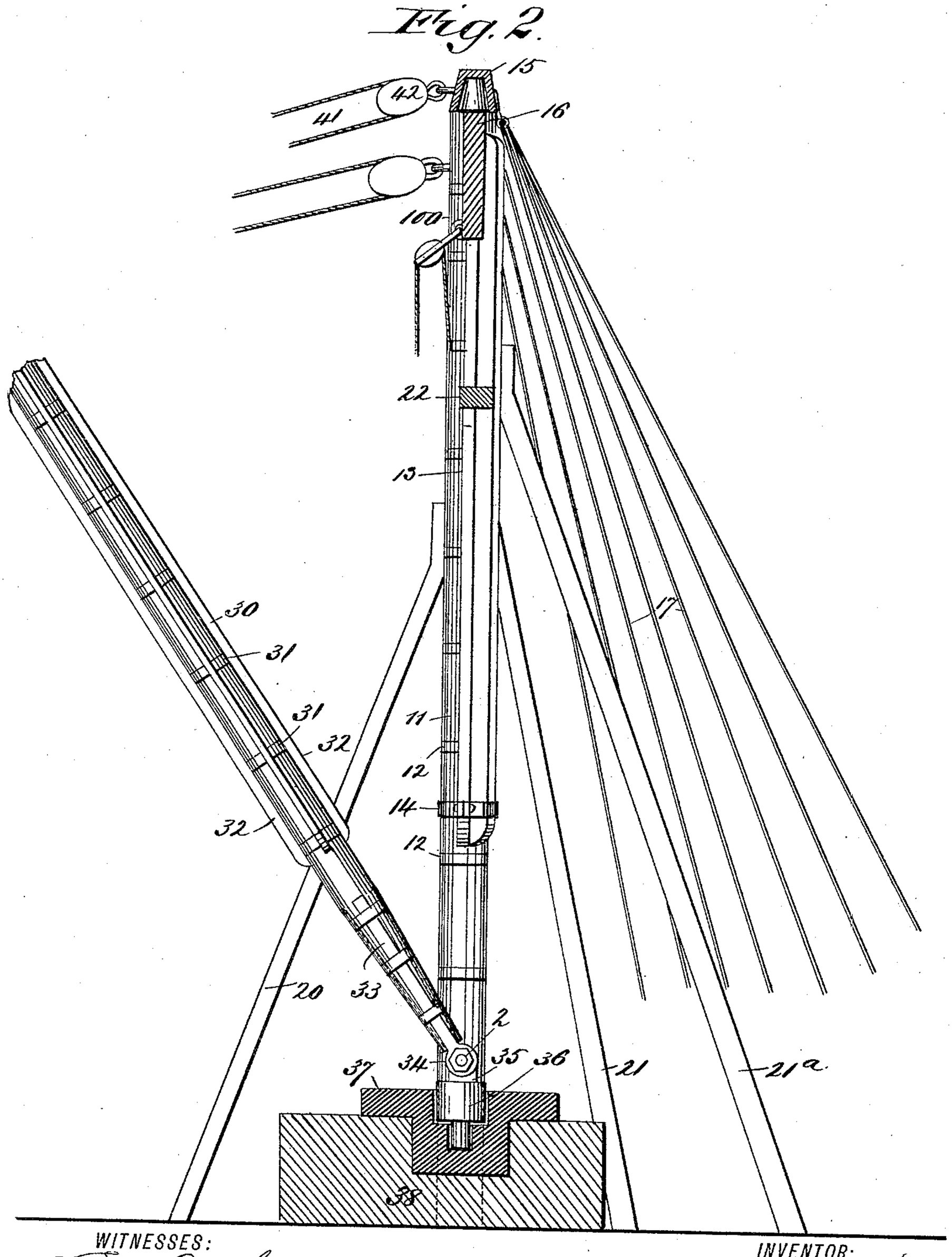
4 Sheets—Sheet 2.

W. E. CHAPMAN.

DERRICK.

No. 411,214. Patented Sept. 17, 1889.

Fig. 2.



WITNESSES:

F. McArdle.

C. Sedgwick

INVENTOR:

W. E. Chapman

BY Munn & Co

ATTORNEYS.

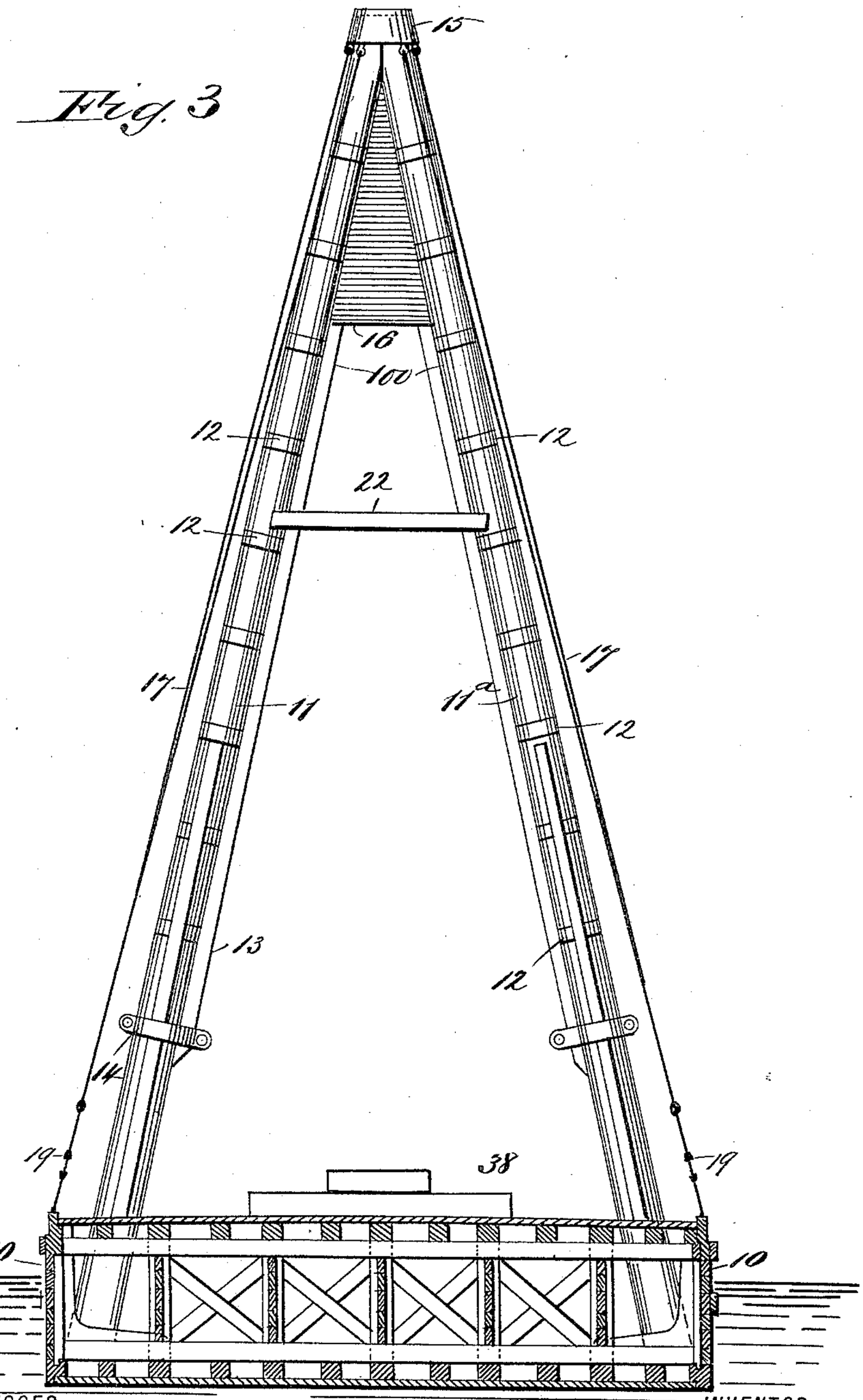
(No Model.) 4 Sheets—Sheet 3.

W. E. CHAPMAN.

DERRICK.

No. 411,214. Patented Sept. 17, 1889.

Fig. 3



WITNESSES:

F. Fred Ardle.

C. Sedgwick

INVENTOR:

W. E. Chapman

BY Munn & Co.

ATTORNEYS.

(No Model.)

4 Sheets—Sheet 4.

W. E. CHAPMAN.

DERRICK.

No. 411,214. Patented Sept. 17, 1889.

Fig. 4

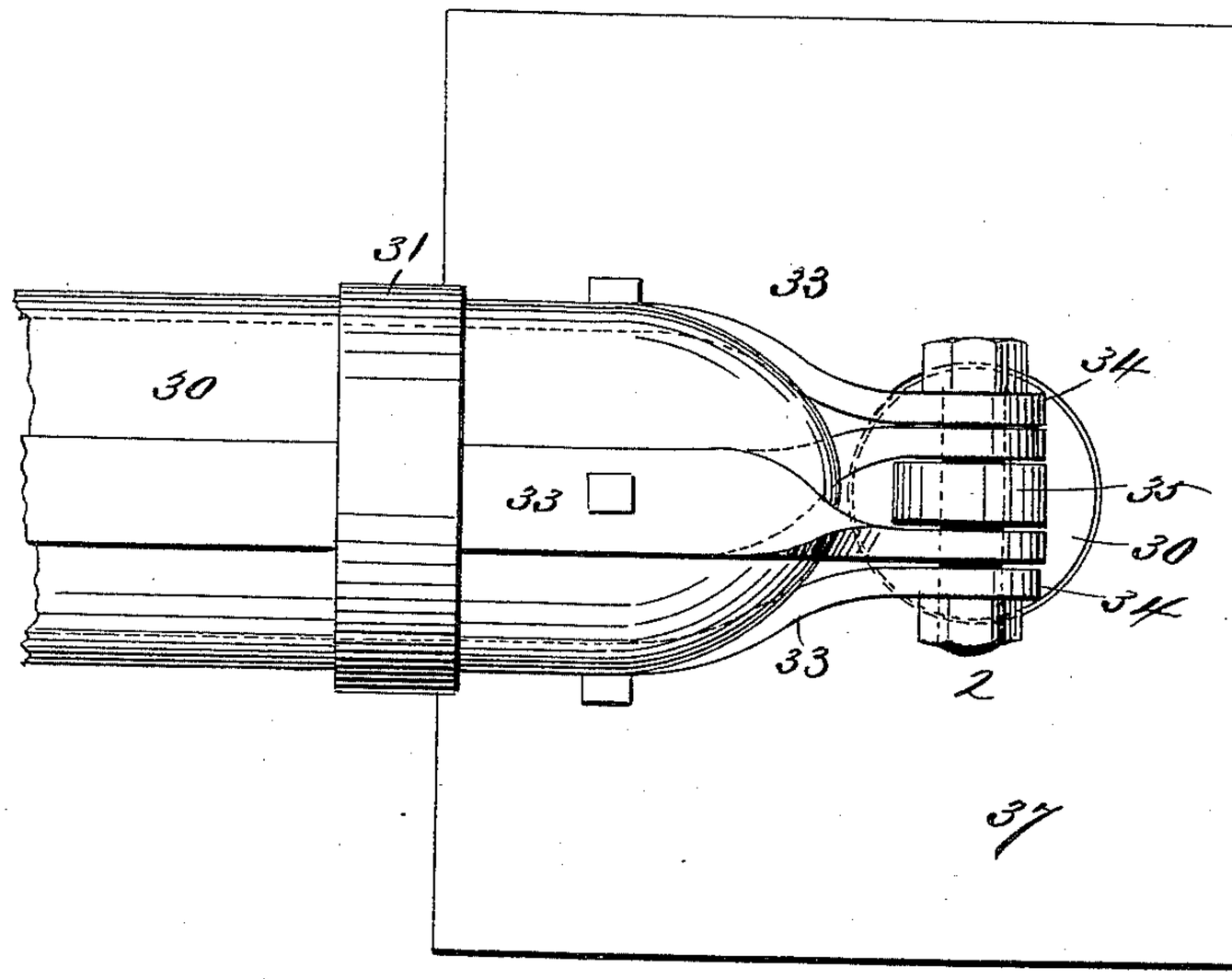
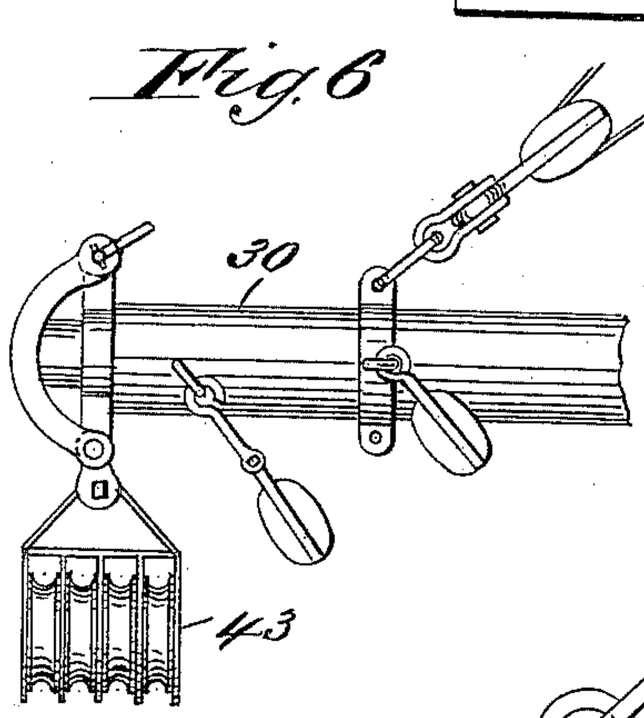


Fig. 6



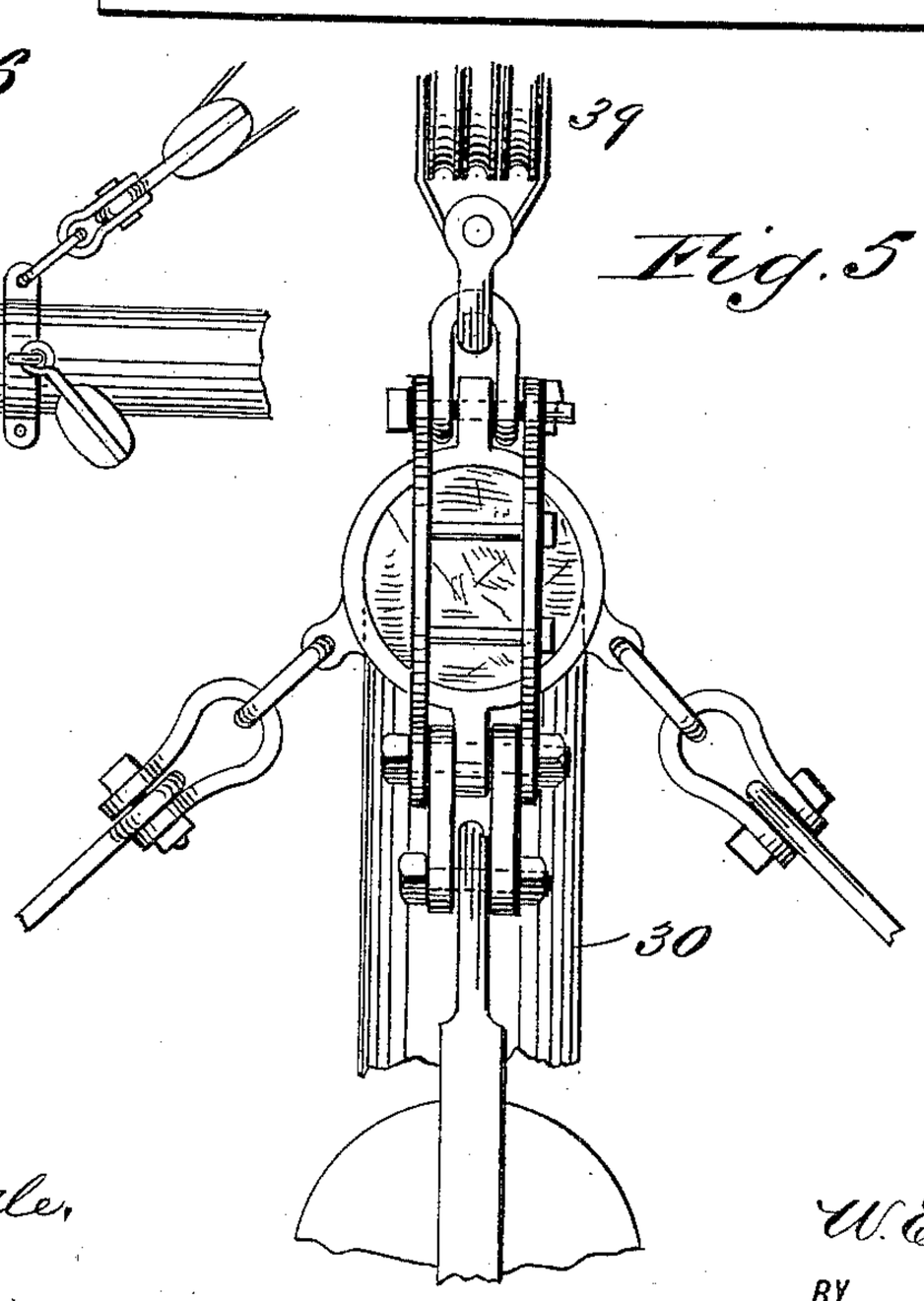


Fig. 5

WITNESSES:

F. McArdle.

C. Sedgwick

INVENTOR:

W. E. Chapman

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM E. CHAPMAN, OF BROOKLYN, NEW YORK.

DERRICK.

SPECIFICATION forming part of Letters Patent No. 411,214, dated September 17, 1889.

Application filed April 10, 1889. Serial No. 306,713. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. CHAPMAN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Derrick, of which the following is a full, clear, and exact description.

This invention relates to derricks, the object of the invention being to provide a derrick that shall be applicable for use in the raising of extremely heavy weights; and to the end named the invention consists in the particular construction and arrangement of parts, as will be hereinafter more fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a derrick constructed in accordance with the terms of my invention. Fig. 2 is a central sectional elevation of the derrick-frame. Fig. 3 is a front view of the A-frame, the boom being removed and the float being shown in section. Fig. 4 is an enlarged detail view of the lower end of the boom and the boom-step. Fig. 5 is a detail view of the upper end of the boom, and Fig. 6 is a side view of the boom end.

In the specific construction shown in the drawings I have represented my improved derrick as it would appear if mounted upon a float or scow; but I desire it to be understood that the derrick might be mounted upon a fixed base, or that it might be mounted upon a land conveyance.

In the drawings, 10 represents a float or scow, upon which there is stepped an A-frame 100, said frame being made up of masts 11 and 11^a, which masts are preferably formed from a number of longitudinal strips that are united by binding hoops or bands 12, the parts being strengthened by cleats 13, that are held to place by sectional bands 14, the upper ends of the masts being connected in any desired manner, but preferably fitting within a cap 15 and being spaced by a block 16, as shown.

To the cap 15, I connect guy-ropes 17, which are secured to chain-plates 18, a proper tension upon the guy-ropes being secured through the medium of turn-buckles 19, that are arranged as best shown in Figs. 1 and 3. In addition to the guy-ropes 17, I provide forwardly-extending struts or braces 20 and rearwardly-extending struts or braces 21 and 21^a, as many of these struts being employed as may be deemed desirable or advisable.

Although not positively essential, I prefer to employ a stiffening cross-piece 22, which is arranged as clearly shown in the drawings.

In connection with the frame above described I employ a heavy boom 30, that is made from a single stick or from a number of longitudinal sticks that are united by bands 31, outside of which bands there are arranged strengthening-ribs 32. To the lower end of the boom 30, I secure straps 33, each strap being formed with an eye 34 and the extending ends of all of the straps being bent over so that the eyes will register. The straps 33 are bent, as best shown in Fig. 4, to receive the eye 35 of the swivel-bolt 36, which bolt is stepped in a heavy bed-plate 37, mounted upon a proper foundation 38. Connection between the eyes 34 and 35 is established by means of a heavy bolt 2. To the end of the boom 30 there are connected blocks 39 and 40, over the sheaves of which blocks there is passed a heavy rope 41, which also runs over the sheaves of a block 42, that is connected to the A-frame 100, the rope leading backward to a guiding-block that is carried by the A-frame and thence downward to the winding-drum, any proper arrangement of blocks and ropes answering in this connection. To the end of the boom there is connected a fall and tackle 43, to which the object to be raised is secured. Various falls for controlling the boom are arranged as may be convenient.

By means of such a derrick as the one above described I am able to raise very heavy weights, and, as I bring the weight beneath the apex of the supporting-frame and above the center line or keel of the float, I am able to maintain the equilibrium of the derrick.

In practice I employ water ballast, controlling said ballast in any of the well-known ways. This derrick has been employed to raise sunken vessels bodily and to handle very heavy articles.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the swiveled eye-bolt 35 36, of the boom 30, the straps 33, secured to the boom and provided with eyes 34 in their ends, the said ends being bent so that the eyes will register with each other and with the eye of the swivel-bolt, and the bolt 2, passed through the said eyes, substantially as described.

2. The combination, with an A-frame 100 and the swivel-bolt 36, having an eye 35 and arranged between the masts 11 11ª of the said frame, of the boom 30, the straps 33, having eyes 34 in their ends and secured to the boom by bands 31, and the bolt 2, passing through said eyes, substantially as herein shown and described.

WILLIAM E. CHAPMAN.

Witnesses:
W. T. LETHBRIDGE,
WM. C. ANDREWS.