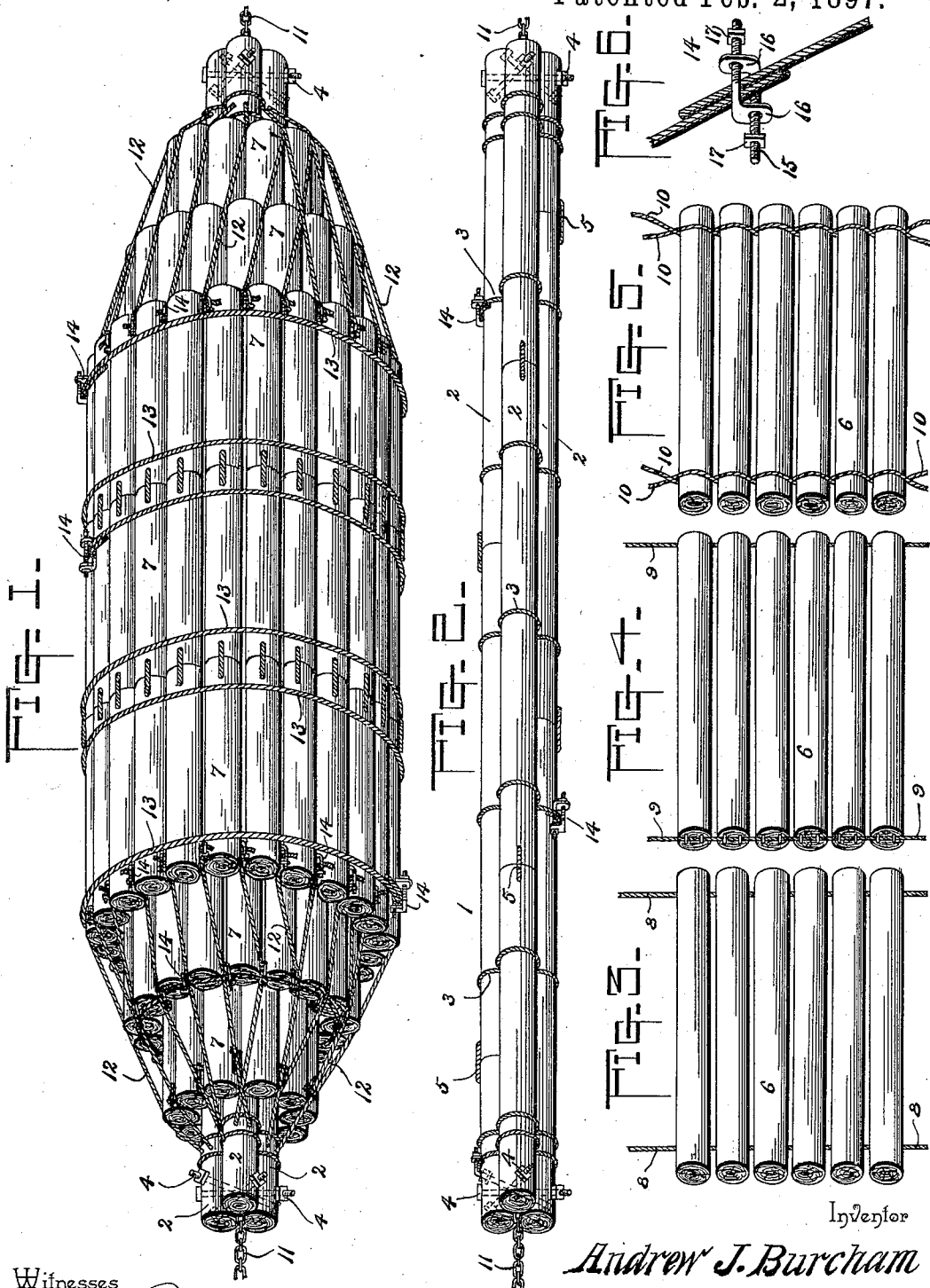


(No Model.)

A. J. BURCHAM.
TIMBER RAFT.

No. 576,515.

Patented Feb. 2, 1897.



Witnesses

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UNITED STATES PATENT OFFICE.

ANDREW J. BURCHAM, OF WOODLAND, WASHINGTON.

TIMBER-RAFT.

SPECIFICATION forming part of Letters Patent No. 576,515, dated February 2, 1897.

Application filed April 26, 1895. Serial No. 547,273. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. BURCHAM, a citizen of the United States of America, residing at Woodland, in the county of Cowlitz, State of Washington, have invented certain new and useful Improvements in Timber-Rafting; and I do declare the following to be a full, clear, and exact description of the said invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and figures marked thereon, which form a part of this specification.

The invention relates to improvements in timber-rafts.

The object of the present invention is to provide simple and reliable means for rafting timbers for transportation from one place to another and to afford a cheap transportation for such timber.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a raft constructed in accordance with this invention. Fig. 2 is a similar view of the core. Figs. 3, 4, and 5 are detail views of different means for stringing timbers in flexible sections for forming the layers of the raft. Fig. 6 is a detail view of one of the clamps.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a central core designed to extend the entire length of a raft and consisting of any suitable number of timbers 2, preferably three in number, arranged side by side, but the core may be of any desired thickness and a greater number of timbers may be arranged side by side, if desired. The timbers which constitute the core are secured together by means of cables or chains 3, encircling the core and connected at their ends by suitable clamps 14, and the timbers are also connected at the ends of the core by bolts 4.

The clamps 14 are composed of two L-shaped members or sections, forming longitudinal shanks 15 and laterally-extending arms 16. The longitudinally-disposed shanks 15

are arranged parallel, and the laterally-disposed arms 16 are also parallel and are provided with perforations for the reception of the shanks 15. The shank of one member passes through the perforation of the arm of the other member, and the two laterally-disposed arms are adapted to engage frictionally the ends of the cables and firmly bind them together. The clamp adjustably connects the ends of the cables, and the arms are forced into the desired frictional contact with them by nuts 17, engaging the outer faces of the arms and arranged on the shanks, which are threaded.

As a single timber cannot be obtained of sufficient length to extend from one end of the core to the other, a series of timbers arranged end to end are employed. They are connected by short chains or cables 5, which pass through the perforations of the timbers, and the joints are alternately arranged, so that no two occur at the same place. The ends of the short chains or cables 5 are connected by clamps 14, and by arranging the joints of the timbers as above described a core of sufficient stability is provided.

After the core has been completed sections 6 of timbers, strung together by means hereinafter described, are wrapped around the core in concentric layers 7. The innermost layer terminates short of the ends of the core, preferably from two to four feet, and the succeeding layers terminate short of the innermost layer and of each other to form a tapering or pointed raft, as shown, and also to arrange the joints alternately, so that no two occur at the same point, to secure the desired strength and stability.

The timbers of the sections 6 may be strung together flexibly in any suitable manner, and in Fig. 3 chains or cables 8 pass through perforations of the timbers and are arranged adjacent to the ends thereof, and in Fig. 4 the connecting chains or cables 9 are stapled or otherwise secured to the ends of the logs. In Fig. 5 a pair of connecting chains or cables 10 are arranged adjacent to each end of the section and are interlaced through the logs and connect them securely together.

In constructing the raft the central core is floated and is suitably anchored to piers or piling by end cables or chains 11, which are

swiveled at their inner terminals to the adjacent ends of the core. The section 6 of the timbers which are to constitute the innermost layer are floated to the core, and the ends of the
 5 connecting cables or chains at the ends of the sections adjacent to the core are secured to the latter by means of clamps 14, and the core is rotated to wind or wrap the flexible sections around it, after which the ends of the
 10 connecting chains or cables are clamped together to bind the innermost layer tightly to the same. The core is rotated by any suitable power, such as an engine or the like, which is preferably connected with the core by
 15 chains previously wrapped around the same near the ends thereof, whereby when the chains are drawn open they will be unwound, consequently producing a rotation of the core. The other layers are mounted on the core
 20 similar to the innermost layer, and after the raft has received the desired number of layers the latter are bound at the tapering or pointed ends of the raft by tie chains or cables 12, extending along the sloping ends of
 25 the raft from the outside layer to the core and firmly clamped to the adjacent ends of the sections of the layers and to the core. The raft is further supported and strengthened by cables or chains 13, arranged at suitable
 30 intervals and encircling the cylindrical body portion of the raft and connected at their ends by suitable clamps.

The swiveled cables or chains 11, which anchor the core during the construction of the
 35 raft, are also adapted for towing the latter.

It will be seen that the raft is simple and

comparatively inexpensive in construction, that the timbers may be readily and securely bound together, and that the completed raft possesses great strength and durability and
 40 affords cheap transportation for timber.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.
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What I claim is—

1. A raft comprising a series of layers of timber arranged on each other to form a solid mass, and decreasing in length outward and forming a tapering or pointed raft, substantially as described.
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2. A raft comprising a central core, and a series of layers of timber arranged on the core and extending around the same to form a solid mass, said layers decreasing in length
 55 from the core outward and forming a tapering or pointed raft, substantially as described.

3. A raft comprising a central core, consisting of timbers, a series of concentric layers arranged on the core, composed of sections of flexible connecting-logs and terminating short of one another to arrange the joints or adjacent ends of the sections alternately so that no two joints will occur at the same point, and chains or cables for binding
 60 the layers and the core together, substantially as described.
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Witnesses:

THOMAS COPPIN,
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