Sept. 29, 1931. J. M. CHEVALIER 1,824,982

LOG RAFTING DEVICE

Filed May 1, 1929 2 Sheets-Sheet 1

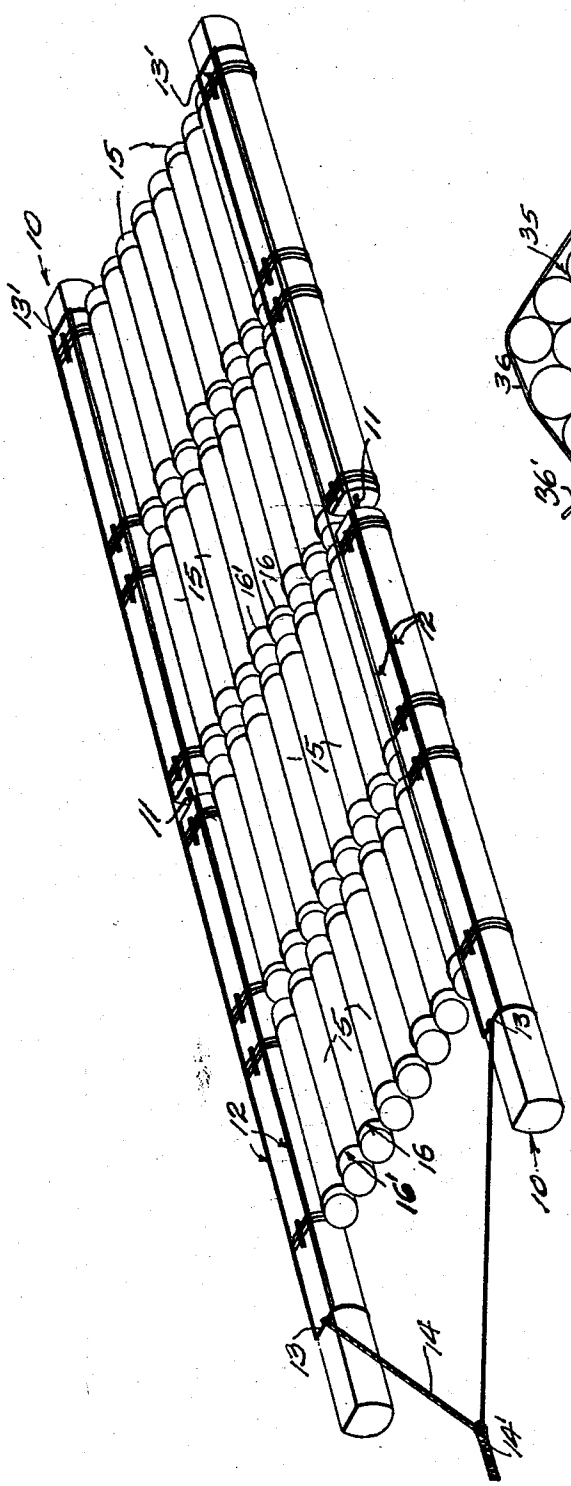


Fig. 1.

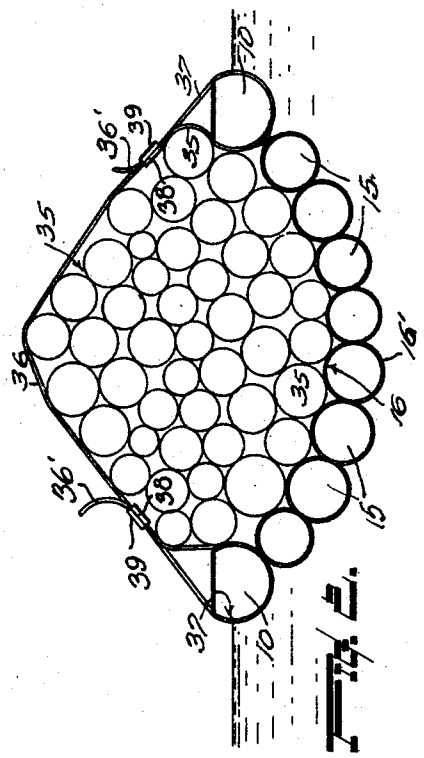


Fig. 2.

INVENTOR
John Maxim Chevalier
BY Pierre Barnes
ATTORNEY

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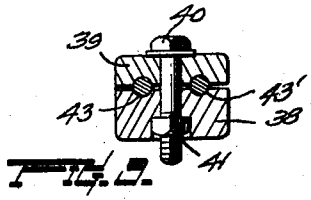


Fig. 1.

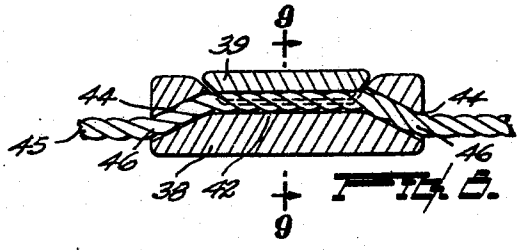


Fig. 2.

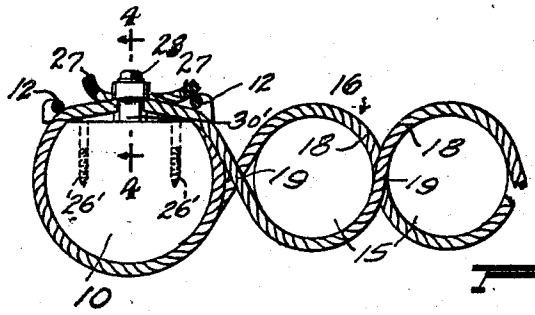


Fig. 3.

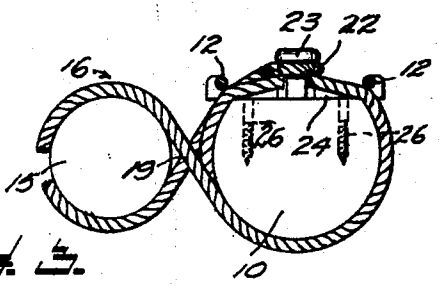


Fig. 5.

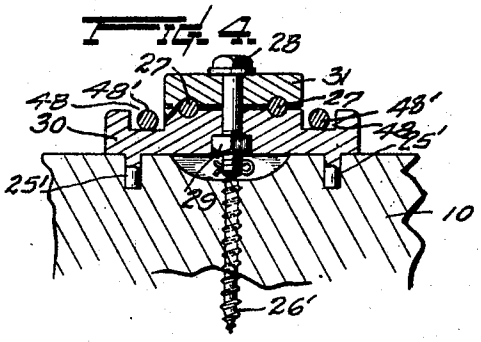


Fig. 4.

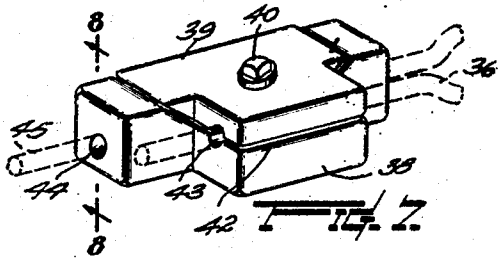


Fig. 7.

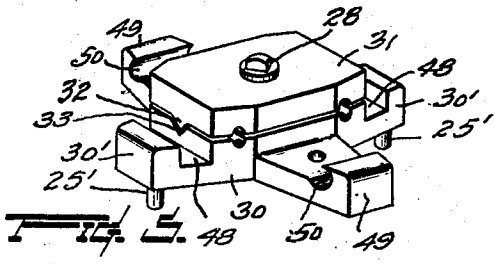


Fig. 6.

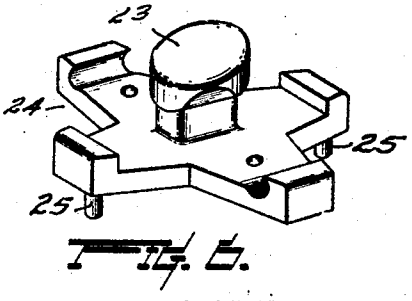


Fig. 8.

INVENTOR
John Maxim Chevalier
BY
Pierre Barnes
ATTORNEY

Patented Sept. 29, 1931 1,824,982

UNITED STATES PATENT OFFICE

JOHN M. CHEVALIER, OF TACOMA, WASHINGTON, ASSIGNOR OF ONE-HALF TO OTTO A. RHODE, OF SEATTLE, WASHINGTON

LOG RAFTING DEVICE

Application filed May 1, 1929. Serial No. 359,502.

This invention relates to log rafting devices and, more especially, to the manner or means for securing together saw logs and the like for towing.

The main object of the invention is the improvement in devices of this character whereby logs may be rafted and transported with greater safety and at less cost than hitherto.

Another object of the invention is to provide log-rafting equipment which is adapted to be used for successive tows, which is readily arranged into log-towing relation and arranged to be used in a compact condition for returning the equipment for a new load of logs.

More specific objects and advantages of the invention will appear in the following description.

The invention consists in the novel construction, adaptation and combination of devices hereinafter described and claimed.

In the accompanying drawings,—

Figure 1 is a perspective view illustrating the frame of a log raft embodying my invention; Fig. 2 is an end elevation of a log raft including the frame shown in Fig. 1; Fig. 3 is a fragmentary end elevation of the raft frame in course of construction; Fig. 4 is a longitudinal vertical section taken substantially on line 4—4 of Fig. 3; Fig. 5 is a perspective view of a side-stick clamping assembly; Fig. 6 is a perspective view of a side-stick anchor post member; Fig. 7 is a perspective view of a clinching clamp; Fig. 8 is a longitudinal vertical section through 8—8 of Fig. 7; and Fig. 9 is a transverse vertical section through 9—9 of Fig. 8.

In carrying out my invention, I provide a frame comprising two rows of longitudinally disposed logs 10, which are held in end to end relation in the respective rows by means of coupling cables or chains 11.

The group of logs 10, hereinafter to be designated as a "side-stick," at each side of the raft is connected together by means of companion cables 12 extending lengthwise of the respective side stick and secured thereto by means of chokers 13 and 13^1.

14 represents a cable, or bridle, secured to the chokers adjacent to the front end of the raft and to which a tow line 14^1 is attached.

In forming a raft, said side sticks 10 are first disposed at opposite sides of a group, or groups, of longitudinally arranged logs 15, providing a floor between the side sticks as represented in Fig. 1. The floor logs are united by means of cables disposed in pairs, as 16—16^1, extending transversely of the raft and connected at their ends to the side sticks at opposite sides of floor logs 15.

The manner and means for releasably retaining the parts of the raft constituting the main features of the present invention are illustrated in Figs. 2 to 8 inclusive.

In forming a raft, the side sticks 10 and floor logs 15 are interwoven with the cables 16 and 16^1. In attaining such interweave, the extremities of each pair of cables are secured to the respective side sticks, as will be presently explained, then passed in opposite directions as at 18 and 18^1 about said side sticks, the cable leads crossing at 19, to pass above and below the floor logs 15 alternately from one side to the other of the raft frame and floor.

The ends of the cables 16—16^1 at one side of the raft are provided with loops such as 22 (Fig. 3) to engage over a post element 23, Figs. 3 and 6, extending upwardly from a base plate 24 which is rigidly secured to one of said side sticks by means of dowel pins 25 and coupling bolts 26 extending into the respective side stick.

The ends 27 of said cables 16—16^1 at the other side of the raft are secured by means of screw threaded clamping bolts 28 and nuts 29 between chairs 30 and caps 31, said chairs being secured to the associated side sticks by means or dowel pins 25^1 and coupling bolts 26^1 as explained above with reference to said base plates 24.

32 represents a tongue (Fig. 5) provided upon each or the caps 31 engaging in grooves 33 of the respective chairs to prevent relative rotary movement thereof.

The floor logs 15 secured together and to the side sticks 10, as above explained, provide a frame, or cradle, within which are deposited filler logs 35 (Fig. 2) arranged longitudi-

nally of the raft and forming the major part of the raft cargo. The logs 35 deposited in the cradle cause the latter to be progressively submerged until the raft is loaded.

After being thus loaded, the load is lashed to the frame by means of a plurality of transverse ropes or cables such as 36 in Fig. 2. Each lashing comprises a rope extending about and engaging the side sticks 10 within loops 37, said loops being adjustable as to position and size to accommodate the raft load. For forming said loops I provide, near each end of a lashing, rope-clamping devices comprising a block 38 and a cap piece 39 between which is secured the respective rope ends, through the medium of a screw bolt 40 and a nut 41 arranged as shown in Figs. 7 and 9.

Lashing of the rope to effect the wedging of the filler logs into secured position, is attained by attaching the rope lead 36^1 to a cable extension from a power drum (not shown) retracting the bolt 40 sufficient to loosen said lead 36^1, taking up the rope slack by power and again securing the bolt to clamp the rope between cap 39 and block 38.

A block 38 moreover is formed intermediate its length with a recess 42 to receive the associated cap piece which, to receive the rope, is grooved as at 43 and 43^1 at opposite sides of the bolt 40.

The block 38 is of a length to extend beyond the cap piece at both ends of the latter, see Figs. 7 and 9, the protruding ends of the block being provided with apertures 44 through which one of the companion leads, as 45, of the loop is threaded. The loop lead 45 is desirably formed to provide offsetting bends 46 thereto to further secure the loop from being drawn through the clamping rope devices.

The chairs 30 are formed with arms 30^1 extending longitudinally of the frame and provided with channels 48 to receive the outer coils 48^1 of the cables 16 and 16^1.

49 represent arms extending laterally of the frame and are provided near their outer ends with grooves 50 to receive the cables 12.

A raft embodying my invention is readily assembled, the parts thereof being readily and effectually secured together by means which are readily disengaged and disassembled at the destination of the raft.

The means for securing the raft in the assembled condition does not mar or otherwise injure the logs being transported.

The construction of the embodiment of the invention now preferred by me and the manner of its operation will, it is thought, be understood from the foregoing specification.

What I claim, is,—

1. In a log raft, the combination with a frame comprising side sticks, and cables and chokers disposed longitudinally of the raft and connecting the component parts of the respective side sticks together, of a plurality of cables disposed transversely of the raft and connecting the side sticks at opposite sides of the raft, and a load receiving cradle comprising longitudinally arranged logs disposed in interwoven relation with said transverse cables and cooperating with the latter to provide a floor upon which the raft cargo is loaded, said transversely disposed cables being detachably connected to the side sticks through loops provided at one end of respective cables, said loops being engageable over posts rigid with one of the side sticks, and having means provided upon the other of said side sticks for clamping the other end of the respective cables thereto.

2. In a log raft, the combination with a frame comprising side sticks, and cables and chokers disposed longitudinally of the raft and connecting the component parts of the respective side sticks together, of a plurality of cables disposed transversely of the raft and connecting the side sticks at opposite sides of the raft, and a load receiving cradle comprising longitudinally arranged logs disposed in interwoven relation with said transverse cables and cooperating with the latter to provide a floor upon which the raft cargo is loaded, said transversely disposed cables being detachably connected to the side sticks through clamping means secured to said side sticks, said clamping means having integrally-secured pin elements arranged for embedding engagement in the logs.

3. In a log raft, in combination, a frame comprising a cradle including longitudinally disposed logs and side sticks adapted to receive the cargo thereon and having transversely disposed cables interwoven with respect to said logs and side sticks, said cables having means comprising clamps rigid with the side sticks for retaining the cables, of transversely arranged cables adapted to be strung over the cargo and looped about the side sticks, and means for clamping said looped cables in adjusted relations with respect to said side sticks, said last named means being carried by said cables in a manner to retain the same on its respective cable subsequent to release of the looped lead engaged therein.

4. In a log raft, the combination with a frame including a cargo receiving cradle comprising longitudinally arranged logs and side sticks and transversely disposed cables interwoven with respect to said logs and side sticks, of means to secure ends of said cables to said side sticks, said means comprising clamps rigidly secured to the side sticks, said clamps conformed to afford grooved seats for both an initial engagement of the cables to said side sticks and the free end turned thereabout.

5. The combination with a log, and a cable, of means for adjustably securing

looped leads of said cable passing about said log, said means comprising a block member having laterally spaced apart grooves disposed in the upper face thereof, cable containing apertures projecting through outer end portions of said block in opposing inclinations and communicating at the inner extremities with one of said grooves, of a cap piece having laterally spaced apart grooves cooperating with said first named grooves in the underneath side thereon, said cap piece being adapted to be adjustably bolted to said block member in a manner to engage cables longitudinally disposed in said grooves in a manner to crimp the lead engaged by said apertures in providing cable retaining offset portions to the same while allowing adjustability to the other of said leads.

6. The combination with a log, and a cable, of means for adjustably securing looped leads of said cable passing about said log, said means comprising a block member and a cap piece arranged to be bolted to said block member, said block member comprising cable receiving laterally spaced-apart grooves and means cooperative with said grooves whereby one of said leads may be securably retained while allowing adjustability to the other.

7. The combination with a log, and a cable, of means for securing said cable to the log, said means comprising a chair having pins projecting into the log for securably retaining said chair to the log, said chair having means including recesses for receiving the cable.

8. The combination with a log, and a cable, of means for securing said cable to the log, said means comprising a chair rigidly secured to the log and providing recesses for seating engagement of multiple turns of the cable thereon, and a cap piece engageable over said chair and having means cooperative with said chair recesses for clamping the cable rigidly therein.

9. A cable clamp comprising a block member having a pair of spaced-apart cable-receiving grooves, a cap member arranged for bolting engagement to said block member for clamping cable leads in respective grooves, and means cooperating with said bolt engagement between the two members for retaining both of said members with respect to one of the clamped leads while affording release of the other.

Signed at Seattle, Washington, this 13th day of April 1929.

JOHN M. CHEVALIER.