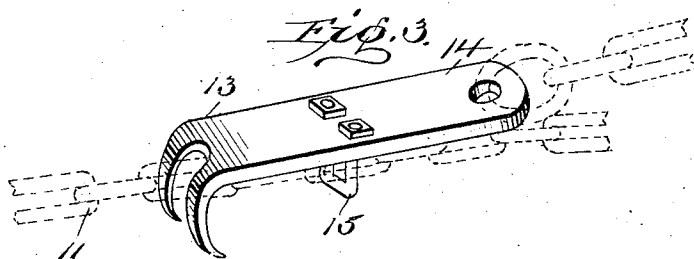
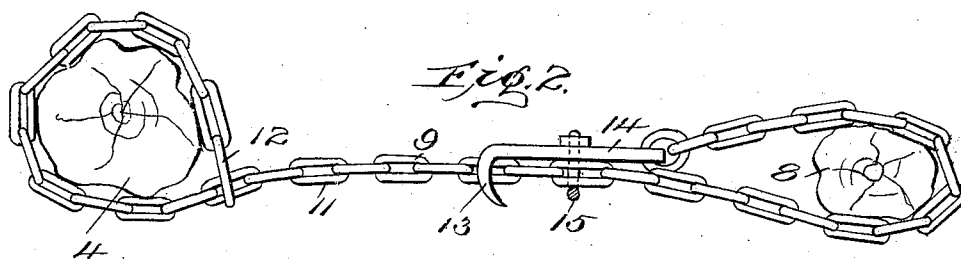
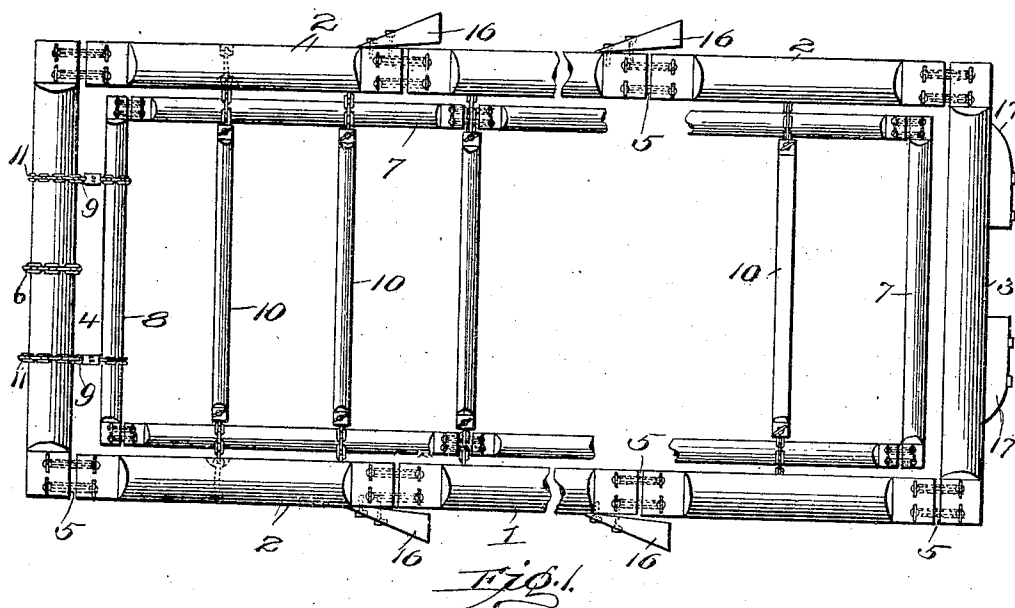


No. 855,159.

PATENTED MAY 28, 1907.

M. F. BROWN.  
LOG RAFTING APPLIANCE.  
APPLICATION FILED DEC. 18, 1906.



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# UNITED STATES PATENT OFFICE.

MICHAEL F. BROWN, OF SEATTLE, WASHINGTON.

## LOG-RAFTING APPLIANCE.

No. 855,159.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed December 18, 1906. Serial No. 348,472.

*To all whom it may concern:*

Be it known that I, MICHAEL F. BROWN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Log-Rafting Appliances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to log rafting appliances, and more particularly to the means for connecting the various booms employed for retaining the logs in a raft.

One of the objects of the invention is to provide a novel connecting means between the tow stick of the outer raft and the head boom of the inner raft which will enable the inner raft to be readily adjusted to any desired position within the outer raft.

A further object is the provision of means for protecting the joints between the side booms of the outer raft and preventing the same from being clogged or disarranged by external objects.

The invention also contemplates means for preventing the rear boom of the outer raft from turning upon its axis in such a manner as to injure the connecting means employed for securing it to the side booms.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter more fully described and claimed.

In the accompanying drawing:—Figure 1 is a top plan view of a logging raft formed in accordance with the present invention, portions being broken away. Fig. 2 is an enlarged view showing the chains employed for connecting the head raft stick of the inner raft to the tow stick of the outer raft. Fig. 3 is an enlarged, perspective view of the hook located at one end of the chain.

Referring to the drawings, the numeral 1 designates the outer raft which is composed of the side booms 2, the rear cross boom 3, and the tow stick 4, the adjacent ends of the said members being loosely connected in any approved manner, as by means of the chains or cables 5. A suitable line, such as 6, is shown as connected to the tow stick 4 for the purpose of towing the raft. Arranged within the outer raft 1 is the inner raft 7, the head raft stick 8 of which is located adjacent the

tow stick 4 of the outer raft and loosely connected thereto by means of the links 9. If found desirable cross booms or binders 10 which extend transversely across the raft and are loosely connected to the side booms 2 of the outer raft may be employed, and serve to prevent the escape of the logs confined within the rafts over the outer booms.

The links 9 employed for connecting the head stick 8 of the inner raft to the tow stick 4 of the outer raft are in the nature of chains 11 having rings or eyes 12 at one end thereof and hooks 13 at the opposite end thereof. In the application of the links 9 it will be observed that the chain 11 is passed through the ring 12 at one end thereof to form a loop which extends around one of the members being connected, while the hook 13 is passed around the opposite member and brought into engagement with an intermediate portion of the chain 11. The engaging portion of the hook 13 is preferably in the nature of a claw, as will be clearly apparent from Fig. 3, and comprises two spaced arms adapted to fit upon opposite sides of one of the chain links and engage with an end of an adjacent link. The shank of the hook 13 is provided with locking means whereby the same is held closely against the chain in such a manner as to prevent disengagement of the hook 13 therefrom. For this purpose the shank is preferably flattened as indicated at 14 and provided with a pair of perforations for the reception of a U bolt 15 constituting the locking means. As shown in the accompanying drawings the chain loop formed with the ring 12 passes around the tow stick 4 while the loop formed by the hook 13 extends around the head raft stick 8. Owing to the different lengths of logs being towed it is often necessary to permit the inner rafting head stick to be slacked off so that the rear end of the inner raft will approach the rear boom stick of the outer raft. The connecting chain 11 is accordingly made a sufficient length to permit this slacking off and the hook holds the adjustment where desired, the U bolt 15 constituting a locking means which prevents the claws of the hook from releasing the link of the chain.

The joints between the side booms 2 of the outer raft are prevented from being clogged or injured by external means through the medium of the guard members 16 which are in the nature of blocks secured to one of the booms and projecting beyond the joint. In

the preferred construction of the blocks 16 they are given an approximately wedge shape, the smaller or reduced end being spiked or otherwise rigidly connected to one of the booms 2, while the enlarged end projects beyond the joint in such a manner as to prevent the joints from becoming fouled with rocks, piles or similar agencies along the path where the raft is being towed.

Considerable annoyance is frequently occasioned by the tendency of the rear cross boom 3 of the outer raft to revolve upon its longitudinal axis and thereby twist the connecting chains by means of which it is secured to the side hook in such a manner as to injure the joint. This difficulty is obviated in the present invention by spiking or otherwise rigidly connecting to the cross boom 3 a system of blocks or floats 17. The weight of the floats 17 serve to prevent the boom from turning in one direction, and their buoyancy prevent the boom from turning in the opposite direction.

By the term "chain" as used in the specification and claims, I wish to be understood as including any form of flexible connecting member.

Having thus fully described my invention,

what I claim as new and desire to secure by Letters Patent is:—

1. A logging raft, comprising a system of loosely connected booms, and tapered blocks secured to the booms and projecting over the joints.

2. A logging raft, comprising a system of loosely connected booms, and approximately wedge-shaped blocks having their reduced ends secured to the booms while their larger ends project over the joints between the booms.

3. In a logging raft, the combination of an outer raft, an inner raft, a chain connecting the tow stick of the outer raft to the head stick of the inner raft, an eye at one end of the chain, a hook at the opposite end of the chain adapted to engage an intermediate portion thereof, and a U bolt carried by the hook and engaging the chain to prevent accidental releasing of the hook.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL F. BROWN.

Witnesses:

G. WARD KEMP,  
MARK WHELAN.