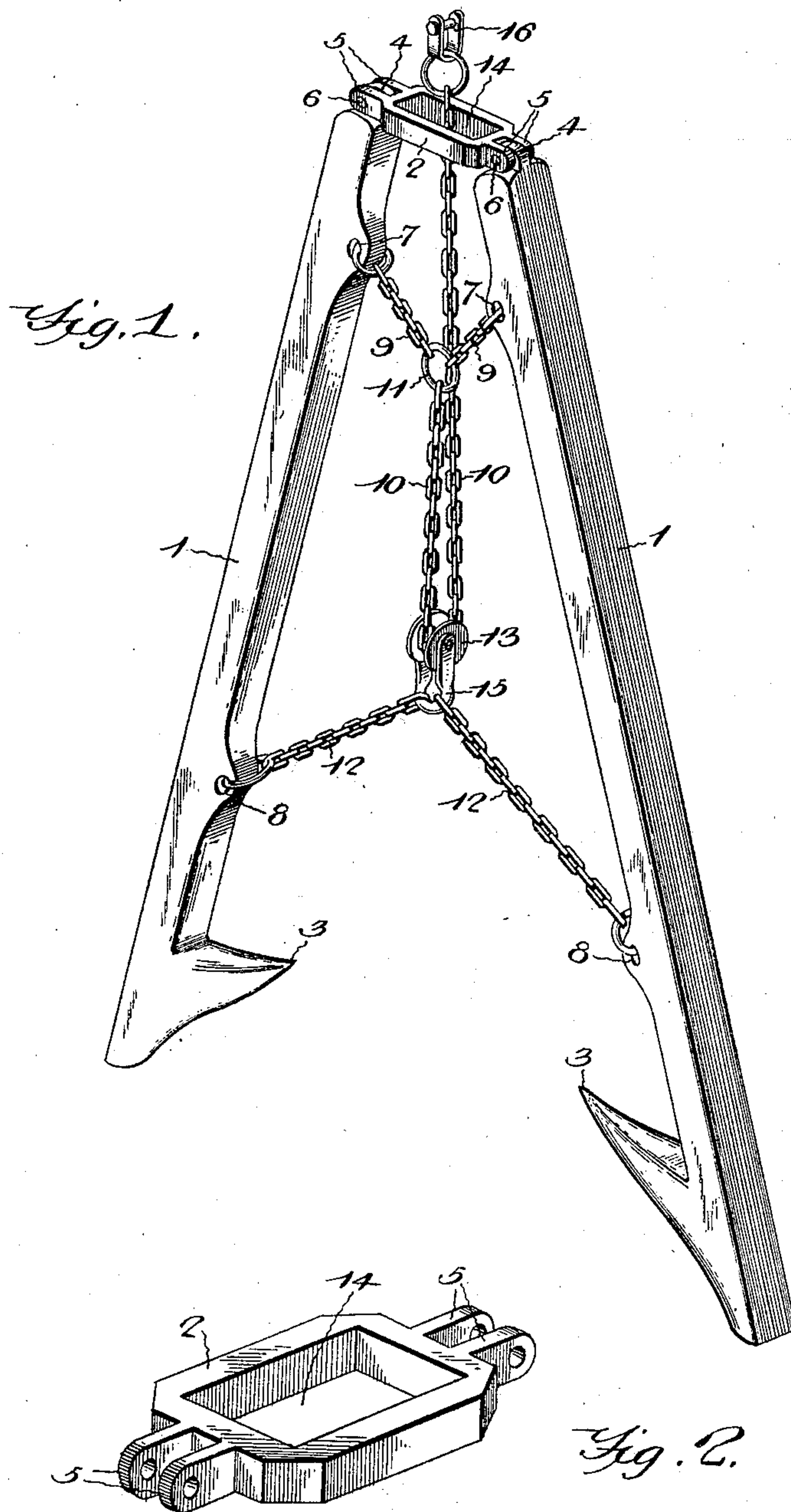


No. 607,571.

Patented July 19, 1898.

A. PAULSON.
GRAPPLE FOR LIFTING LOGS.
(Application filed Mar. 30, 1898.)

(No Model.)



Witnesses
J. Graff Culverwell,

J. F. Pily

By His Attorneys.

Andrew Paulson, Inventor.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ANDREW PAULSON, OF SNAKE, MINNESOTA.

GRAPPLE FOR LIFTING LOGS.

SPECIFICATION forming part of Letters Patent No. 607,571, dated July 19, 1898.

Application filed March 30, 1898. Serial No. 675,773. (No model.)

To all whom it may concern:

Be it known that I, ANDREW PAULSON, a citizen of the United States, residing at Snake, in the county of Marshall and State of Minnesota, have invented a new and useful Grapple for Lifting Logs, of which the following is a specification.

The invention relates to improvements in grapples for lifting logs.

10 The object of the present invention is to improve the construction of grapples and to provide a simple, efficient, and powerful one especially adapted for lifting heavy logs and capable of securely clamping the same and of
15 preventing them from slipping or falling while being lifted.

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

25 In the drawings, Figure 1 is a perspective view of a grapple constructed in accordance with this invention. Fig. 2 is a detail perspective view of the top connecting-piece.

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

30 1 1 designate the sides or arms of a log-engaging grapple, and these sides or arms 1, which are connected at their upper ends by a top piece or frame 2, are provided near their lower ends with hooks or spurs 3, extending
35 upward and inward at a slight inclination and adapted to imbed themselves in a log below the center thereof, whereby the weight of the log will operate to hold the sides or arms in engagement with the same, thereby effectually preventing a log from slipping or
40 falling while being lifted.

45 The upper ends 4 of the sides or arms are reduced and perforated, and the top piece or frame 2, which is substantially rectangular, is provided at opposite sides of the device with projecting ears 5, which are perforated
50 to receive pivots 6 and which are located at opposite sides of the reduced upper ends 4 of the sides or arms 1, the pivots passing through the parts and connecting them.

50 The sides or arms 1, which are adapted to swing inward and outward on the pivots 6, are provided at their inner edges with perfo-

rated enlargements, forming upper and lower eyes 7 and 8. The upper eyes are located a short distance below the top piece or frame 2, and the lower eyes are arranged a short distance above the spurs or hooks 3.

The upper eyes 7 receive short chains 9, which connect the upper portions of the sides or arms 1 with a hoisting-chain 10 or other
60 suitable flexible connection, such as a rope or cable. The hoisting-chain 10 is preferably provided at one end with a ring 11 to receive the end links of the adjacent chains.

65 The lower eyes 8 are connected by chains 12 with a pulley 13, around which passes the hoisting-chain which extends upward through the opening 14 of the top piece or frame 2. As the hoisting cable or chain, which is attached to the upper flexible connections 9,
70 extends downward to the lower connecting devices and has a running engagement or connection with the same it will be apparent that when there is an upward draft on the hoisting-chain 10 the sides or arms of the
75 grapple will be drawn inward from two points and will be capable of securely grasping a log. The frame of the pulley 13 is extended below the wheel to form an eye 15, into which the adjacent end links of the chains 12 are linked.
80 The upper end of the hoisting-chain is designed to be provided with a suitable clevis 16, and it may be secured to any hoisting mechanism.

85 The invention has the following advantages: The grapple, which is simple and comparatively inexpensive in construction, possesses great strength and is capable of securely gripping a log. It is drawn inward into engagement with a log at both its top and
90 bottom, and the weight of the log operates to hold the sides or arms of the grapple into engagement with it. The grapple, which is adapted to be used in connection with any character of hoisting mechanism, may be em-
95 ployed on log-carriers and analogous devices.

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. 100

What I claim is—

1. A device of the class described, comprising a pair of arms or sides hinged at their upper ends and provided at their lower ends

with means for engaging a log, a centrally-
arranged flexible hoisting cable or chain ex-
tending downward between the sides or arms,
and means for connecting the cable or chain
5 with the sides or arms near the top and bot-
tom thereof, whereby the weight of the load
will operate to draw the sides or arms into
contact with it, substantially as described.

2. A device of the class described compris-
10 ing hinged sides or arms, short chains con-
nected with the sides or arms near the upper
ends thereof, a pulley, chains 12 extending
from the pulley to the sides or arms and con-
nected with the same near the lower ends
15 thereof, and a hoisting-chain attached to the
short chains and passing around the pulley
and extending therefrom to the top of the de-
vice, substantially as described.

3. A device of the class described, compris-
20 ing hinged sides or arms provided at their
lower ends with engaging devices, the upper
flexible connections extending inward from
the upper portions of the sides or arms, the
lower flexible connecting devices extending
25 inward from the lower portions of the sides
or arms, and a hoisting chain or cable at-

tached to the upper flexible connections, ex-
tending downward therefrom to the lower
connecting devices and passing upward there-
from, said hoisting chain or cable having a 30
running engagement with the lower connect-
ing devices, substantially as described.

4. A device of the class described compris-
ing a top piece or frame having an opening
and provided with ears, sides or arms pivoted 35
to the ears and provided with spurs or hooks
and having eyes near their upper and lower
ends, a pulley, a hoisting chain or cable pass-
ing around the pulley and extending through
the opening of the frame or top piece, con- 40
nections between one end of the hoisting
chain or cable and the upper eyes of the sides
or arms, and means for connecting the lower
eyes of the sides or arms with the pulley, sub-
stantially as described. 45

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

ANDREW PAULSON.

Witnesses:

OLE O. STAVIG,
ENOK O. STAVIG.