

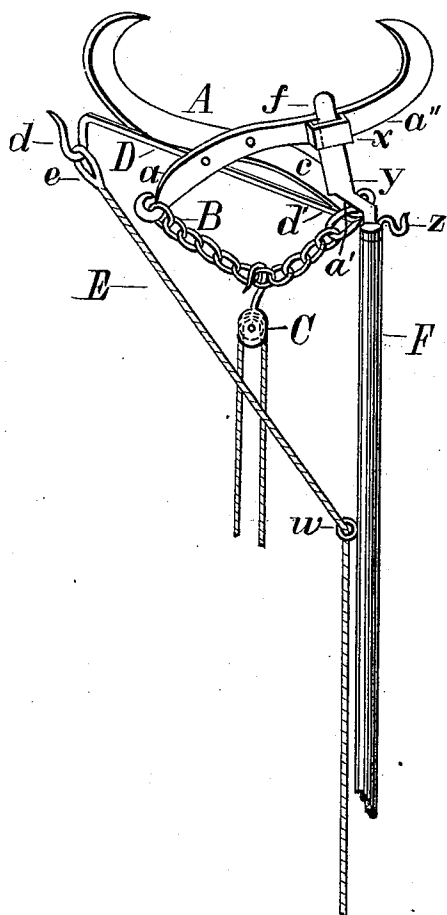
(No Model.)

H. N., N. A. & E. A. SMITH.
GRAPPLE.

No. 510,053.

Patented Dec. 5, 1893.

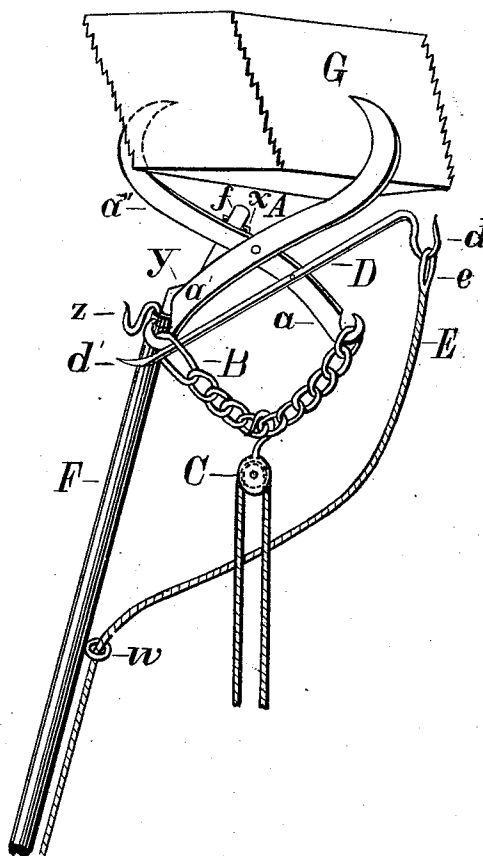
Fig. 1.



Witnesses.

Francis H. Cleverly
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Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY N. SMITH, NORMAND A. SMITH, AND EVERETT A. SMITH, OF
BANGOR, MAINE.

GRAPPLE.

SPECIFICATION forming part of Letters Patent No. 510,053, dated December 5, 1893.

Application filed May 29, 1893. Serial No. 475,999. (No model.)

To all whom it may concern:

Be it known that we, HENRY N. SMITH, NORMAND A. SMITH, and EVERETT A. SMITH, citizens of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Grapples and Grapple Lifters and Carriers; and we 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.

Our invention consists of an improved grapple and grapple lifter and carrier. It is designed more especially for use with horse hay-forks and is fully illustrated in the accompanying drawings, in which—

Figure I is an isometric view from the front, showing grapple with the jaws open, and the lifter in position for transporting the grapple. Fig. II is an isometric view from the rear, showing the grapple in engagement with beam, and lifter in position for removing grapple.

Similar letters refer to corresponding parts throughout the figures.

The claw-grapple, commonly used with horse hay-forks operates on the familiar principle exhibited in the common ice-tongs. It is ordinarily clutched to a beam or rafter near the top of the barn, and is reached by means of a ladder and shifted from place to place as occasion requires. By my device it is handled from the barn floor, and quickly and easily shifted and adjusted as required, without the use of ladders or handling from above.

We provide a grapple A, chain B, and sheave C as commonly used, and upon one of the shanks *a* of the grapple, we pivot a lever D, having a hook or other point of connection *d* at its power end to admit of attaching and detaching the cord E. The lever D is so pivoted to the shank *a* as that its resistance end *d'* may rest under and operate the shank *a'* of the grapple A. We also form a socket *x* upon the forward side of that claw *a''* of the grapple to the shank of which the lever is pivoted, shaped and formed to receive the point *f* of the lifter F, which point is formed with a shoulder to prevent its passing too far into the

socket *x*. The point of the lifter is bent at *y* to pass free in front of the chain B, and the lifter is also provided with a hook *z* near its upper end, a grommet *w* serving as a guide for the cord E.

The lifter F consists of a long straight shank or handle terminating in the point as above described.

The operation of the whole device is as follows: When it is desired to fix the grapple to an overhead beam, the point *f* of the lifter F is inserted in the socket *x* on the claw *a'* of the grapple A, as shown in Fig. I, the lifter sustaining the whole device is carried in the hands to a point underneath the spot where it is desired to fix the grapple to the beam G, the cord E is pulled, and operating the lever D forces open the jaws of the grapple, as shown in Fig. I, into position for clutching the beam, and when in the position desired, the cord E being let go, the weight of the chain B and sheave C close the jaws of the grapple and the claws of the grapple prick into the beam G, as shown in Fig. II. The point of the lifter F is then drawn out of the socket *x* upon the grapple and the hook *z* upon the lifter F is then inserted in the loop *e* upon the cord E which is lifted out of the hook *d* upon the lever D thus leaving the grapple suspended from the beam and entirely disconnected from the lifter. When it is desired to remove the grapple from the beam, the loop *e* of the cord E is placed in the hook *z* of the lifter and lifted and caught upon the hook *d* of the lever D; the point *f* of the lifter is then inserted in the socket *x* on the grapple, as shown in Fig. II, and the cord E being sharply pulled simultaneously with an upward thrust of the lifter, the lever D is operated, and the jaws of the grapple thrust asunder freeing it from engagement with the beam. In this manner the grapple may be quickly and easily transported from place to place and fixed to any support in any desired position and all this may be done from the floor of the building and without the use of ladders or perilous climbing at considerable heights.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

In a grapple and grapple-lifter and carrier,
the combination of a lever pivoted on the front
face of the shank of one of the arms of said
grapple in such a position as that its resist-
5 ance end may rest under and operate upon
the shank of the other arm of said grapple; a
socket upon the claw of the first named arm
of said grapple; a lifter or carrier having a
point adapted to engage with said socket; a
10 cord adapted to be attached to and detached

from the power end of said lever; and a
weighted chain connecting the shanks of said
grapple.

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Witnesses:

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