No. 876,652. PATENTED JAN. 14, 1908.

H. F. MARTIN.

LOGGING GRAB.

APPLICATION FILED MAY 31, 1907.

Fig. 1.

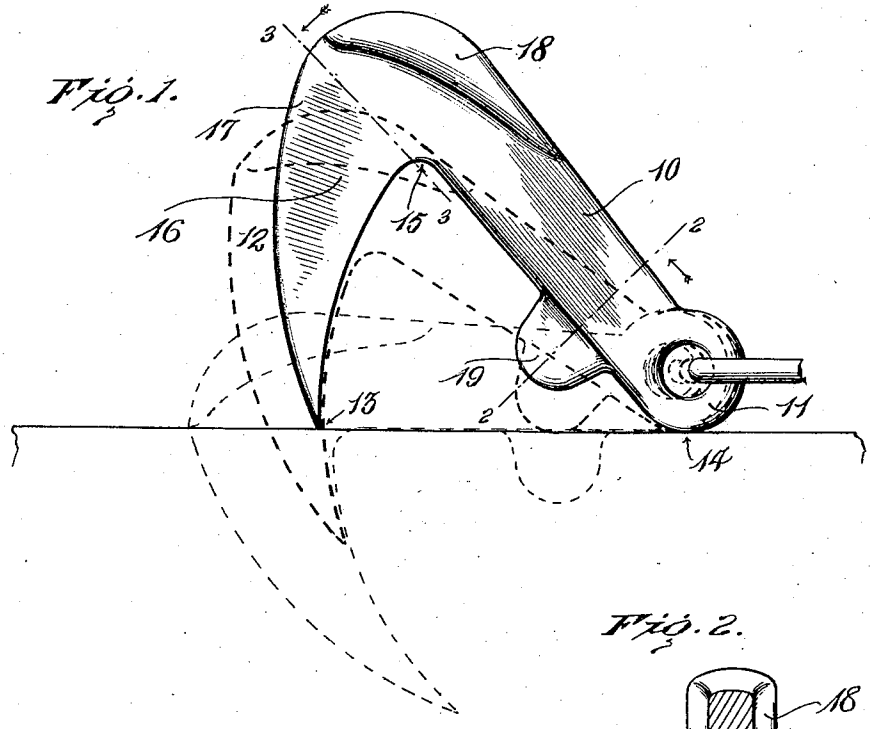


Fig. 2.

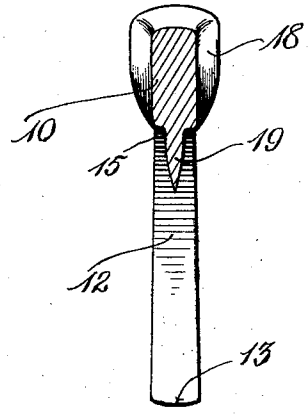


Fig. 3.

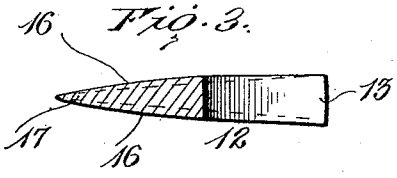
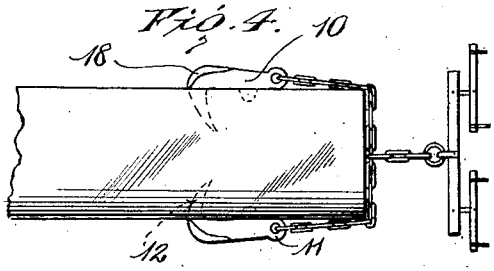


Fig. 4.



Witnesses

A. F. Williams

M. E. Kelly.

Inventor

H. F. Martin.

By Deeler & Robb

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HAROLD F. MARTIN, OF WEST PIKE, PENNSYLVANIA.

LOGGING-GRAB.

No. 876,652. Specification of Letters Patent. Patented Jan. 14, 1908.

Application filed May 31, 1907. Serial No. 376,543.

To all whom it may concern:

Be it known that I, HAROLD F. MARTIN, a citizen of the United States, residing at West Pike, in the county of Potter and State of Pennsylvania, have invented certain new and useful Improvements in Logging-Grabs, of which the following is a specification.

This invention relates to tools used in lumber camps, and especially to an improvement in logging hooks or "grabs" employed in securing a series of logs together or whereby one or more logs may be drawn from the stump to the mill or to a convenient place for transportation.

Among the special objects I have in view are to improve the general form of the grab whereby the same may be easily driven into a log and readily withdrawn therefrom when desired, and yet preventing likelihood of accidental displacement from the log; to prevent to the maximum extent injury to the fiber of the log penetrated by the grab; to increase the strength and durability of the tool without a corresponding increase of weight; to provide means to prevent likelihood of breakage by the twisting of the tool in actual use and without the attendant disadvantages heretofore present in corresponding structures, and generally to produce a tool of this class which is simple in structure, easy of manipulation, and highly efficient and satisfactory in service.

For a full understanding of this invention, including its mode of operation, reference is to be had to the accompanying drawings, whereon similar parts are indicated in the several views by like reference characters, and in which:—

Figure 1 is a side elevation of the grab, showing in full lines the position assumed by the tool just prior to being driven into a log, and in dotted lines subsequent positions thereof; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is a sectional view on the line 3—3 of Fig. 1, and Fig. 4 is a diagrammatic plan view illustrating one application of the invention.

Specifically describing the mechanical structure of the grab, the shank 10 is provided at its forward end with an annular eye 11 for the attachment of suitable draft means, such as a chain. The bit 12 of the grab is made integral with the rear end of the shank, and the point 13 thereof extends downwardly and forwardly with respect to said rear end of the shank, and the body portion of the bit 12 is formed substantially arc-shaped, the center of curvature thereof being sbstantially at the initial point of contact of the bottom of the eye with the log, and indicated at 14, such point lying in the surface of the log when the latter is engaged by both the point 13 of the bit and the bottom of the eye, as in Fig. 1. In other words, a line drawn from the point 13 of the bit would be tangent to the bottom of the eye at the point 14, the purpose of which will presently appear. By virtue of this form of bit the tool may readily be driven into a log without striking from the head toward the eye, thus minimizing the danger of breakage.

The shank 10 is comparatively short and substantially straight throughout its length and joins with the bit in a comparatively sharp bend 15. The point 13 of the bit is chisel-shaped, and the front face of the bit, as indicated in Fig. 2, is widest at the point 13 and is materially narrower towards the bend 15, the taper being gradual from the point upward. The sides 16 of the bit are slightly convex and meet in a comparatively thin back 17. The rear and upper portion of the grab is materially widened and strengthened to form a head 18 to receive the impact of a sledge or hammer when driving the same into a log and whereby the durability of the tool is greatly enhanced. The head 18 extends down far enough on the back of the bit to prevent the grab from being driven too far into the log. It will be noted, furthermore, that the general contour of the tool is unbroken and that the body thereof is broad and strong with respect to the plane of greatest strain.

In order to prevent lateral strain upon the shank from bending or breaking the bit when the latter is embedded in a log, I provide a wedge 19 upon and integral with the bottom edge of the shank, and wholly between the eye 11 and the bend 15. I am aware that it is not new to locate a wedge for a similar purpose at the eye of a logging grab, but a grab with a wedge so located cannot be set into the log with facility, the wedge in the old forms interfering with the initial movement of the bit into the log. As indicated by dotted lines in Fig. 1, the point 13 penetrates the log to a considerable depth before the wedge begins to enter the log, and it will be noted in this connection that as the point 13 penetrates the log, cutting its path in the arc hereinbefore described, the eye 11 partakes

of a rolling movement on its surface from the point 14 towards the edge 19, and whereby the eye is caused to recede from the end of the log, a result not heretofore possible in prior devices. The peculiar advantage of this function is exemplified in Fig. 4 in which a common manner of using the device is illustrated. In this manner of attachment two grabs, connected by a short chain, engage opposite sides of the log, and it is important that such connecting chain should closely hug the end of the log. With those forms of grabs commonly in use it is impossible to so set the same and maintain the chain tight, while with the present improved form the chain is not only held snugly against the log but as above indicated the operation of driving the grabs into the log will cause an actual tightening of the chain, due to the rolling receding movement of the grab eyes by virtue of the peculiar form of the bit with respect to the shank. This peculiar function, moreover, obtains irrespective of the wedge 19, and I am able consequently to secure the desirable benefits from the wedge without any of the usual accompanying disadvantages.

The purpose of the wide chisel-shaped point 13 is to prevent the grab from bouncing out on being driven into a log, and which is so likely to occur when the log is frozen. The convex sides 16 give added strength to the bit, and the thin back 17 furnishes sufficient bracing strength where needed and yet the form is such that the tool enters the wood with a minimum damage to the fiber by bruising of the same. While the grab in ordinary conditions of use is securely held in the log by reason of the broad point 13, yet it is readily displaced when desired by applying a pointed hammer or "grab skipper" directly under the bend 15.

While the above structural characteristics have been found most satisfactory and will be substantially observed, it will be understood that these grabs may be made of any suitable material or size, dependent upon the exigencies of the particular case or desire of the user.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is:

1. A logging grab comprising a shank, an eye at one end of the shank, a log entering bit at the other end of the shank, and a wedge integral with the shank and wholly between the eye and the bit, substantially as set forth.

2. A logging grab having a shank, an annular eye at one end of the shank, an arc-shaped bit at the other end of the shank, the center of curvature of said bit being substantially at the bottom of the said eye, and a log-entering wedge on the shank located wholly between the eye and the bit, substantially as and for the purpose set forth.

3. The herein described logging grab consisting of a short straight shank, an eye at the forward end of the shank, an arc-shaped bit projecting downwardly from the rear end of the shank and forming therewith a sharp bend, the point of the bit being chisel-shaped and wider than the intermediate portion thereof, the center of curvature of the bit being substantially at the bottom of the eye, and the sides of the bit being convex and meeting in a thin back portion, a wedge formed on the lower edge of the shank between the eye and the said bend, and the upper rear portion of the grab being provided with a wide head, substantially as set forth.

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

HAROLD F. MARTIN.

Witnesses:

C. H. HAXTON,

N. G. MARTIN.