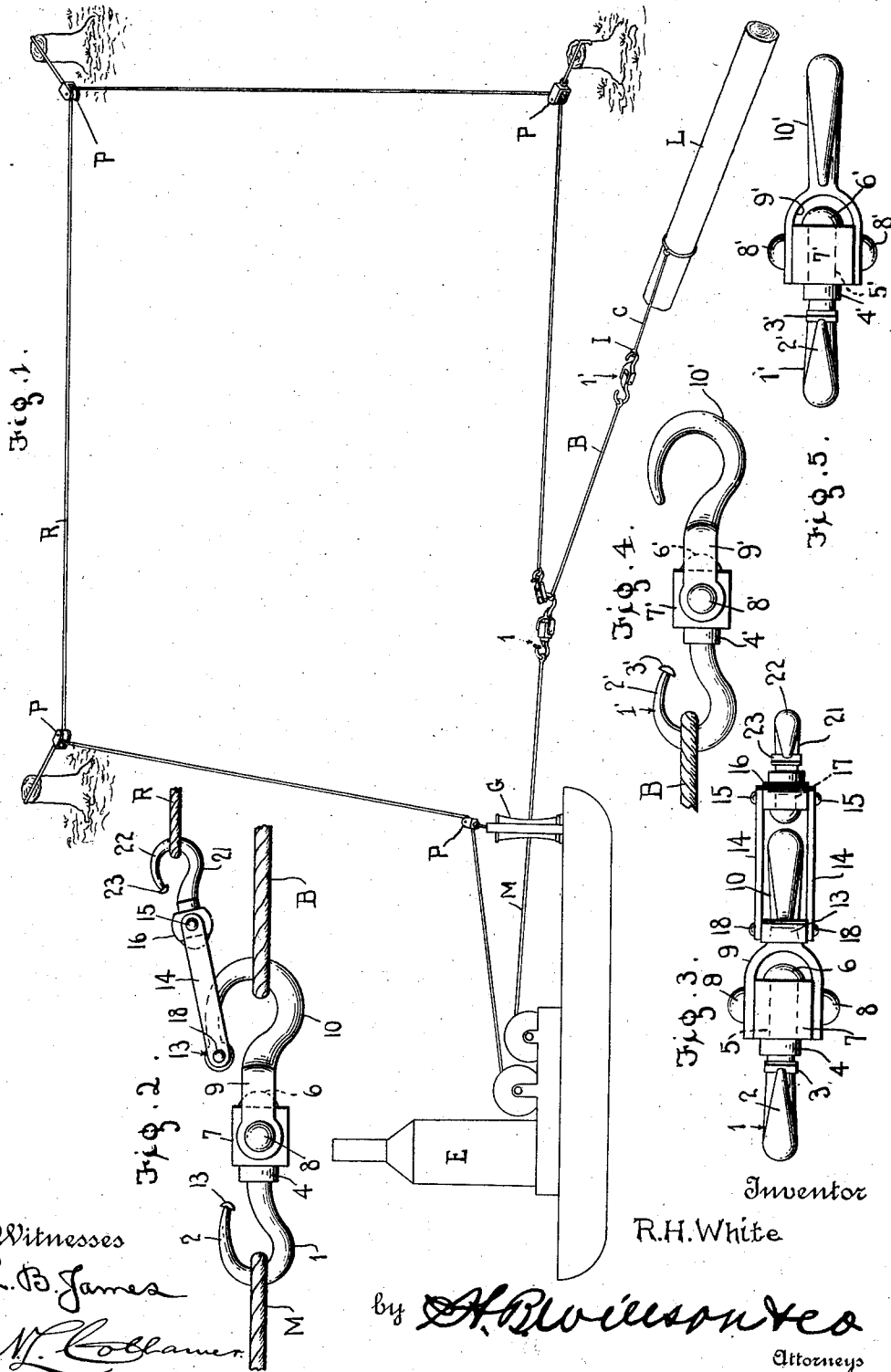


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 LOGGING HOOK.
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LOGGING-HOOK.

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To all whom it may concern:

Be it known that I, ROBERT H. WHITE, a citizen of the United States, residing at Everett, in the county of Snohomish and State of Washington, have invented certain new and useful Improvements in Logging-Hooks; and I do 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.

This invention relates to log transferring devices, and the object of the same is to improve the swiveled hooks hitherto used so that in case one of the lines breaks it can be replaced by a new one without loss of time. These and other objects are accomplished by the construction of hook hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a general diagrammatic view showing the relative arrangement of the several elements of this system; Fig. 2 is an enlarged side elevation and Fig. 3 a plan view of one of the improved hooks used in this connection; and Fig. 4 is a similar side elevation and Fig. 5 a plan view of the other or bull hook used herein.

In the drawings the letter E designates an engine of any suitable type from whose windlasses lead the main rope M and return rope R, the former passing between rollers or suitable guides G on the engine frame as shown, and extending thence out into the woods where the logs are to be picked up, and the return line leading around pulleys P connected with distant trees or stumps as shown and its outer end attached to the main line so as to draw the latter back to its work in a manner well known to those engaged in this work.

It is customary to put a choker line C around the log L and engage an eye I at the outer end of this choker with the bull hook carried by the branch rope B which latter is attached to the main rope M as by splicing or otherwise. After the connection with the bull hook has been made the engineer is signaled, and by rotating the drum in the proper direction he winds up on the main rope M and the log is drawn in toward the engine which is usually situated adjacent the saw mill if one be present or adjacent the stream or railway by means of which the log is to be conveyed elsewhere. After the eye of the choker is unhitched from the bull

hook, the engineer reverses the direction of the rotation of his windlass and the return rope R draws the main hook (sometimes called the "connecting") and the main rope out to the point where another log is to be picked up, and during this operation the branch line and bull hook trail along behind it and often get caught in stumps or other obstructions so that the parts are broken. The result is that the machine must be stopped and the operation of the system interrupted for a sufficient length of time to permit the break to be repaired, either on the spot or wherever a blacksmith is available. The purpose of the present invention is to improve the details of the system to such an extent that breaks of this kind are not so common and there is therefore less interruption to the successful operation of the system, and when the breaks do occur they can be more readily and far more quickly repaired. It is well known to those familiar with this business that the strain on the main rope is excessive at times, and it is quite likely to untwist more or less—especially if it be a new rope; also that the branch line is led from it at various angles so as to be connected with the choker around a log situated almost anywhere within the field of operation of this main rope, and therefore the strain applied to the latter when the engine is drawing in upon it is likely to cause it to twist in either direction so that the parts often become tangled and confused. Moreover, to an extent the same condition exists when the return rope is being drawn upon to pull the main or connecting hook and the trailing branch rope and bull hook out to the field of operation, for these dragging parts frequently encounter stumps and other obstructions and the resistance thus set up tightens and loosens the twists in the return rope so that here again the parts often become tangled. Finally, there is usually excessive wear on all these parts due to their being dragged over the rough ground in addition to the sudden and unequal strains to which they are subjected by the process just described; and the result is that there are frequent breaks in the parts of such a system which of course put it all out of use until they are repaired. It is the purpose of the present invention to avoid such breaks as far as possible, and to provide means for repairing them very quickly when they do occur.

Coming now more particularly to the details of the present invention, I make use of the main hook best seen in Figs. 2 and 3 and the bull hook best seen in Figs. 4 and 5 in place of employing splices or other forms of connection between the branch rope and the main rope and between the branch rope and the choker. The main hook consists of the hook proper, 1, whose bill 2 has a cross bar 3 at its extremity and whose shank has a collar 4 beyond which it is reduced and rounded as at 5, and is provided with an enlarged head 6 at its extremity. Journaled on the shank 5 between the collar 4 and head 6 is a block 7 (preferably square as shown) having projecting from opposite sides two studs 8 which are pivoted in the arms of a yoke 9 at the inner end of the shank of a second hook 10.

The bull hook shown in Figs. 4 and 5 is constructed exactly the same as far as this description has been carried, and I have applied the same reference numerals to those views, but added prime marks to them for distinguishing purposes. This construction of either hook permits an eye at the end of a rope to be passed over the bill of either hook proper, the cross bar 3 at the extremity of the bill 2 preventing its accidental dislocation therefrom. It also permits one hook to swivel with relation to the other so as to allow for the coiling or uncoiling of the strands of either rope. It also permits one hook to swing with relation to the other on the studs 8, which is useful when occasions arise where the shanks of the two hooks must be turned out of alinement with each other. Finally it permits a certain flexibility within the limits of the length of such a compound hook which men engaged in this business find extremely useful. The cross bar 3' on the bill of the left hand hook (see Fig. 4) is shown as engaged with the eye of the branch rope B for the reason that this hook is rarely disconnected therefrom, but the bill of the other hook 10' need not necessarily be provided with such a cross bar because the eye I at the extremity of the choker C will hardly disengage this hook owing to the fact the resistance of the dragging log puts a tension on the choker and the branch rope which seldom if ever relaxes. The cross bar 3 at the extremity of the bill 2 of the left hook shown in Fig. 2 is useful to prevent this member from becoming disconnected from the eye in the outer end of the main rope M, and its other hook 10 is retained in engagement with the inner end of the branch rope B by means next to be described and which constitute a detail of construction in which the device shown in Fig. 2 differs from that shown in Fig. 4.

At the extremity of the bill of the hook 10 is a cross bar 13 of some considerable

length as shown in Fig. 3, and in the ends of this cross bar are studs 18 on which are loosely mounted links 14 that are sufficiently spaced apart to move over the hook 10 as will be clear. The other or outer ends of the links 14 are pivoted on studs 15 which project from the extremities of a block 16. Through the latter is swiveled the shank 17 of a return hook 21 whose bill 22 by preference has a cross bar 23 at its extremity as best seen in Fig. 2, and the return rope has an eye in its end which is engaged over this bill. Here again, as in all other cases where said cross bars are used, it is not desired that the eye of the rope connected with said hook shall become accidentally disconnected therefrom, and the use of the cross bar prevents such disconnection automatically while still permitting the logger to manipulate the eye so that it can be taken off of the hook when occasion demands.

With the parts of this improved system constructed as above described, they are connected up as best seen in Fig. 1. That is to say, the main or connecting hook is engaged with the outer end of the main rope M, and the return rope led around the various pulleys so that it does not pass across the field of operation and connect with the smaller or return hook 21. This hook is swiveled to the block 16 so that the coiling and uncoiling of the return rope is permitted, and the fact that the hook 1 is swiveled in the block 7 permits the coiling and uncoiling of the main rope. Therefore there is no tendency of the hook 10 to twist when either rope is put under tension. The eye at one extremity of the branch rope is engaged over the hook 10, and that at the other extremity over the hook 1' at the left end of what is usually known as the "bull hook," while the eye I at the outer extremity of the choker C is to be removably engaged with the hook 10' at the other end of the "bull hook" as shown in Fig. 1. The fact that the hooks 1' and 10' are swivelly connected permits the branch rope and choker rope to coil and uncoil without twisting and tangling the parts. When now the engineer starts the rotation of the windlass in the proper direction, the return rope is paid out and the main rope is drawn in so that tension is applied to the main or connecting hook, thence to the branch rope B and the bull hook, and thence to the choker C to pull the log, and the latter is drawn over the rough ground and past all obstructions to the point where it is to be sawed or loaded onto the conveyer. There the eye I at the outer end of the choker C is disengaged from the right-hand hook 10', and the engineer reverses the direction of rotation of the drum so that the return rope R draws the main or connecting hook again out to the field of op-

eration, and meanwhile the branch rope and bull hook train along behind it in a manner well understood. Meanwhile the operators are connecting other chokers with other logs which are one by one attached to the outer hook of the bull hook in the manner just described, and the operation is repeated. The strain upon the various parts is intense. Heretofore the branch rope was linked or spliced to the main rope, and the bull hook was similarly connected to the branch rope, and the result was that if the latter broke within its length or at either point of attachment, it was necessary to interrupt the operation of the entire system while repairs were made. By the use of my improvements the eye at the inner end of the branch rope cannot be detached from the hook 10 purposely or accidentally until the links 14 are swung over their pivots 18, the return rope first having been taken off of the hook 21 by canting its eye so that the latter will pass over the cross bar 23. Similarly the eye at the outer end of the branch rope cannot be accidentally disconnected from the hook 1', but can be detached therefrom by canting it as the workman well knows. Thus it will be seen that my improved log transfer system contemplates the stringing of the ropes much as heretofore (and I might add that instead of ropes chains could be used without departing from the invention), and also contemplates the connection of the various ropes much as heretofore because such connection is necessary in the well established practice. But the use of the improved hooks described above obviates many of the difficulties which were hitherto present in a system of this character, not only in avoiding

the twisting and turning of parts but also in preventing the accidental disengagement of the several ropes from their hooks while yet permitting them to be disconnected therefrom by hand when necessary. I do not, however, limit myself to the precise details of construction, and the sizes, shapes, proportions and finish may safely be left to the manufacturer.

What is claimed as new is:

1. A device for the purpose described comprising two hooks whereof one has a cross bar at the extremity of its bill and a collar and head on its shank with an interposed reduced portion, a block swiveled on said portion and having studs projecting from opposite sides, and a yoke on the shank of the other hook pivotally mounted on said studs.

2. A device of the class described comprising two hooks whose shanks are pivotally and swivelly connected and each of which has a cross bar at the extremity of its bill, studs projecting from the ends of one of said cross bars, a pair of links pivoted at one end on said studs, a block having studs in its opposite sides pivoted between the other ends of said links, and another hook having a cross bar at the extremity of its bill and its shank swiveled through said block.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT HUGHS WHITE.

Witnesses:

CHARLES P. DAMMAND,
WM. B. WHITE.