March 26, 1957 A. R. WIRKKALA 2,786,709

LOG HANDLING TONGS

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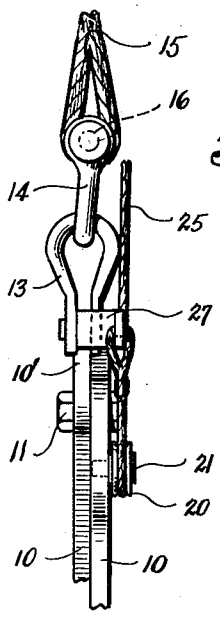


Fig. 3

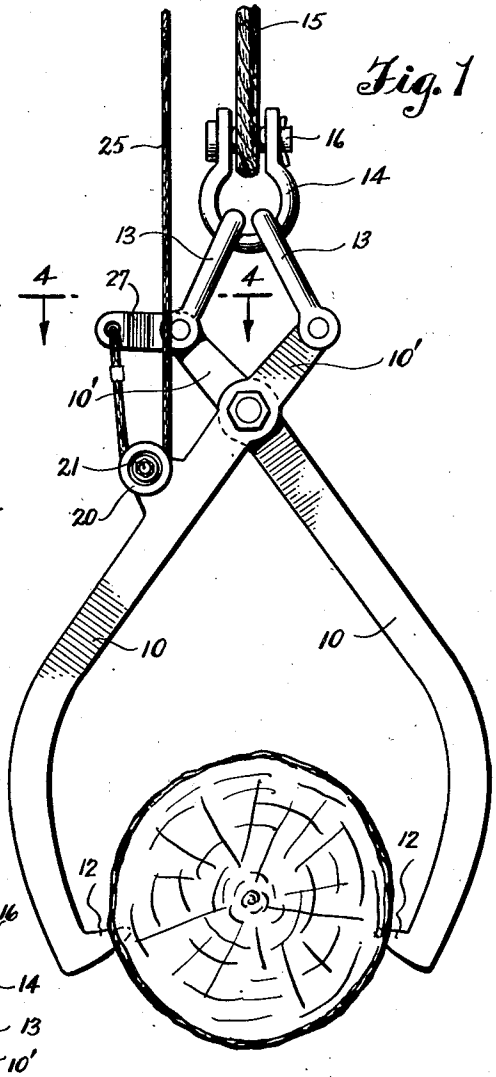


Fig. 1

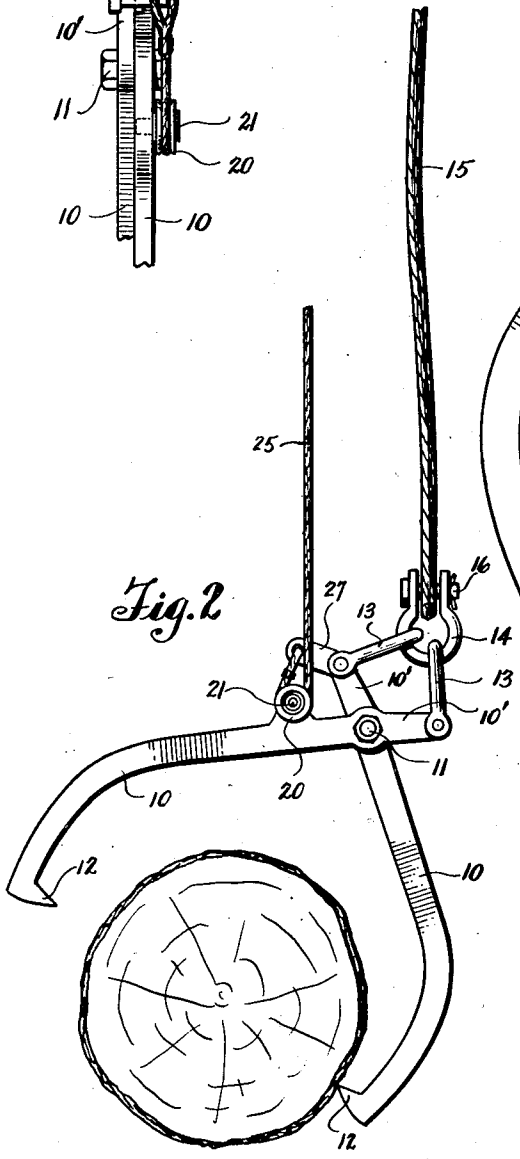


Fig. 2

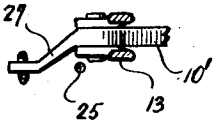


Fig. 4

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LOG HANDLING TONGS

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1 Claim. (Cl. 294—118)

This invention relates to tongs, especially as used for the handling and loading of logs, and it has reference more particularly to the provision of novel cable means for the releasing of the tongs from a log after it has been lowered to rest.

It is the principal object of the present invention to provide a cable means that is extremely simple in its construction and mode of operation, and whereby a pair of tongs can be opened as required for their release from a log, and whereby they may then be held suspended in such open condition that they may be lowered to position for automatic closing about a log through the pull of the hoisting line.

It is also an object of the present invention to provide tong releasing means comprising a single, light weight cable or chain that acts on both tongs with opening force, and which is so connected with the tongs that when opened they may be held in a laterally tilted position that facilitates their release from a log and also provides for an easy application to another log.

Further objects and advantages of the invention reside in the manner of connecting the cable means to the tongs and in its mode of operation, as will hereinafter be fully described.

In accomplishing the above mentioned and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Fig. 1 is a view of a pair of tongs equipped with the present tong opening cable means; and showing the tongs as applied to a log for loading or moving it through the mediacy of the hoisting cable.

Fig. 2 is a similar view illustrating the opening of the tongs to release them from the log.

Fig. 3 is a side or edge view of the upper portion of the pair of tongs and their means of connection with the hoisting line.

Fig. 4 is a sectional detail of parts, taken on the line 4—4 in Fig. 1.

Referring more in detail to the drawings—

The present apparatus comprises the paired tongs, **10** and **10**, disposed with their upper end portions crossed and pivotally joined by a pivot bolt **11**. The lower end portions of the tongs are relatively long and here shown to be inwardly curved to better adapt them for application to a long and formed with inwardly directed log piercing points **12**. The upper end portions of the paired tongs continue beyond the pivot bolt **11** as relatively short lever arms, **10'** and **10'**, each of which has a clevis **13** pivotally attached to its end. Another clevis, **14**, here shown to be of ring-like form, is applied through both clevises **13** and is attached to the end of a hoisting cable **15** by a pivot bolt **16**.

In accordance with present day practice in the loading of logs, the hoisting cable **15** would be extended to the tongs, from the cable winding drum of a hoist, passing from the drum over a sheave at the outer end of a boom,

to depend therefrom to clevis **14** through which it is attached to the tongs. By reason of their present mode of connection with the hoisting cable **15**, the paired tongs may be easily opened apart and closed together as required for practical use in the intended manner of handling logs and similar objects.

The present invention pertains to the provision of cable means for releasing the tongs from the hoist operators position, or from another position that may be remote from the tongs. To accomplish this, a small sheave wheel **20** is mounted for rotation on a pivot stud **21** that is fixed in one of the tongs at a relatively short distance from the bolt **11** whereby the tongs are pivotally joined. Preferably, the distance of pivot stud **21** from the bolt **11** would be substantially equal to the length of the upper end lever portion **10'** of the tong, but this is not a critical distance. Extended downwardly along the hoisting cable **15** is a tong control cable **25**. This passes along the inside of the sheave **20** and then upwardly thereabout and is attached at its end to the outer end of a short extension portion **27** formed as a continuation of the overhanging lever portion **10'** of the other tong. It will be understood that the line **25** can be extended upwardly from its connection with the tongs, over a boom sheave and then to the location of the boom operator and there applied to any suitable winding device, whereby it may be payed out and drawn in in accordance with the paying out or winding in of the tong hoisting line **15**. However, when a log has been lifted and then lowered to rest, it is then possible to slack off on the hoisting line **15** and draw in on the tong line **25**, thus to draw the sheave **20** toward the lever extension **27** and thus cause the tongs to be opened apart, as shown in Fig. 2. This upward pull of cable **25** results in the tongs being swung to an open position for easy disengagement from the log and held in suspension in an open position ready for easy application to another log.

After the tongs have thus been brought to open position, if held suspended by the tong control line **25**, they will remain in the laterally opened position in which they are shown in Fig. 2, and if the line **15** is left in a slackened condition, the tongs will not rotate about the suspending line and their placement about a log will not necessarily require a workman to hold, guide and then close them. After being dropped over a log, the open tongs can then be closed thereagainst merely by slacking off the tong control line **25** and drawing upon the hoisting line **15**.

While I have herein shown use of only one tong control line **25**, it is quite apparent that a similar line could be likewise applied to the opposite side of the tongs and extended to a winding drum adapted to be operated in conjunction with that which carries the other cable.

Tongs of this character, equipped with the cable control or release means as here shown are usually of heavy construction and when used in handling large and extremely heavy logs, are difficult to apply and release manually. Therefore, the present cable control eliminates the usual manual work and also eliminates the dangers that are present and frequently experienced by persons handling and loading logs onto cars or trucks by the extensively used tong boom systems.

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

In combination; a pair of crossed log handling tongs pivotally joined near their upper ends, each equipped at its upper end with a pivotally attached clevis, another clevis applied through both of the tong clevises, a tong suspending and lifting cable attached to the said another clevis, a sheave wheel mounted on one of the tongs below the point of their pivotal connection, the other of said tongs having a continuing portion at its upper end ex-

tending laterally beyond the point of pivotal connection of the corresponding clevis to overhang said sheave wheel and a tong opening line attached to the outer end of said extension and extended downwardly therefrom about the sheave wheel and then upwardly along the said cable as a means for opening the tongs.

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