March 25, 1958 A. E. HANSEN 2,828,156

CHOKER HOOK

Filed Feb. 7, 1955

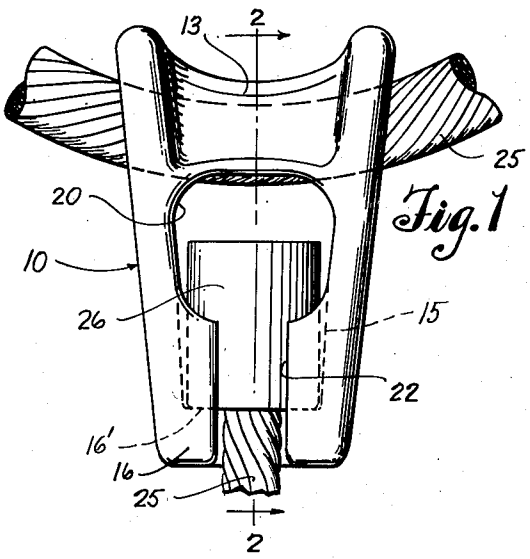


Fig. 1

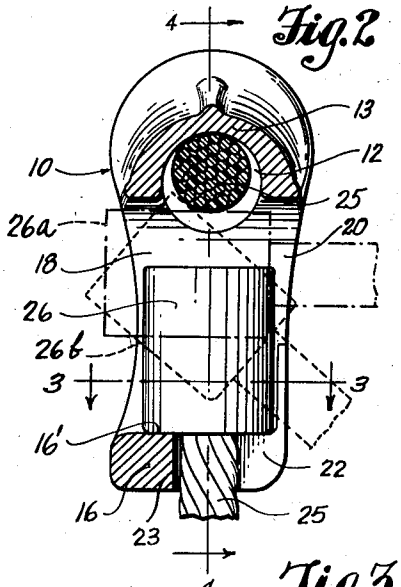


Fig. 2

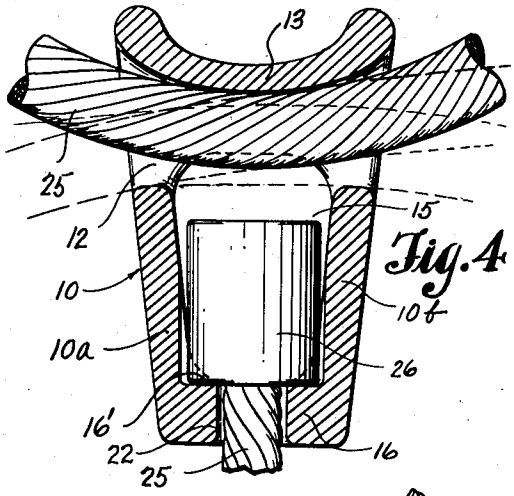


Fig. 4

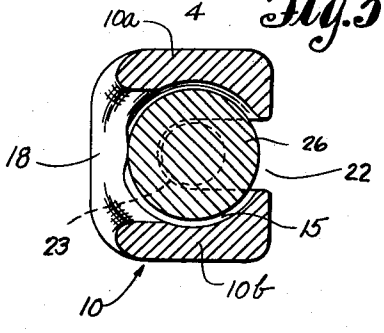


Fig. 3

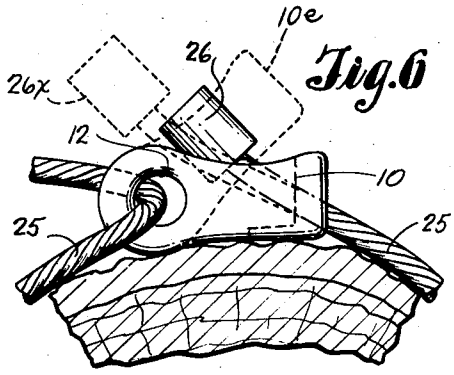


Fig. 6

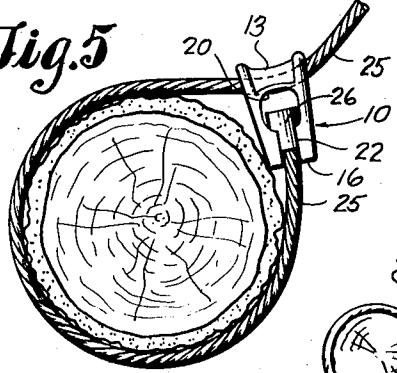


Fig. 5

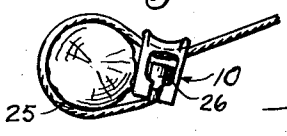


Fig. 7

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CHOKER HOOK

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2 Claims. (Cl. 294—74)

This invention relates to hooks as designed for use in the logging industry. More particularly, the present invention has reference to improvements in hooks of that kind generally designated as "choker hooks," but sometimes as "ferrule hooks," and which are of the general type and character of those illustrated and described in United States Patents Nos. 1,464,162 and 1,675,778 issued to Oscar A. Wirkkala on August 7, 1923 and July 3, 1928, respectively; such hooks comprising a one-piece metal casting formed, through one end portion thereof, with a reeveway for the choker cable and at its other end with a socket that is adapted to seat and retain therein the ferrule or knob equipped end of the choker cable; the cable being reeved through the reeveway, thus to form a slip loop within which one or more logs can be held for dragging or carrying by the cable, as is well understood by persons familiar with cable logging operations.

Due to increased utilization of wood in many by-products other than lumber, and the recognized need for conserving the timber supply, the comparatively recent policy in logging operations of recovering logs of all sizes and types necessitates that logs heretofore discarded as being too small, be saved. Today logs yarded from an area might vary from a five foot butt end log to a tree top of six inch diameter. In the past, all small diameter logs were considered as scrap, and were left in the woods. In present day logging operations, choker hooks are extensively used but must now be designed to handle this wide range of log diameters, however, none to my knowledge are designed to handle the larger logs and also of such shortened length to properly choke and hold the logs of smaller diameter. In view of the foregoing statement, it has been the principal object of this invention to provide a choker hook that is capable of handling logs of large diameter and which, by reason of its design, will effectively choke and hold the logs of smaller diameters as effectively as when used in the handling of logs of large diameters, and without loss of any of the advantages to be found in present day types of choker hooks.

More specifically stated, it is the primary object of the present invention to provide a choker hook of reduced length and of reduced weight, without sacrificing necessary strength or usefulness, or in any way lessening its capabilities for the handling of logs of weights equal to those handled by hooks of greater weight and length as previously designed for the same work.

It is a further object of this invention to improve upon hooks of the type of those of the above identified patents, by the elimination therefrom of the closing wall or obstructing wall that is formed between the reeveway and ferrule socket thus to effect not only a substantial reduction in length and weight of the hook, but also to provide that the choker cable, by reason of the position it automatically assumes in the joined reeveway and socket when it becomes slack, will serve as a retaining abutment or stop that will prevent any accidental release of the ferrule from the hook.

Further objects and advantages of the present invention reside in the specific design of the hook, and details of its construction, and in the relationship of the various parts of the hook and ferrule at the end of the choker cable, 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 face view of a choker hook embodied by the present invention; showing a choker cable as passed through the reeveway and having the ferrule at its end seated in the hook socket in a holding connection.

Fig. 2 is a vertical section through the hook, taken on the line **2—2** in Fig. 1, illustrating the mode of applying the ferrule to the hook, and seating it in the hook socket.

Fig. 3 is a horizontal section through the hook body, taken on the line **3—3** in Fig. 2 and showing the ferrule as seated in the hook socket.

Fig. 4 is a vertical section through the hook taken on line **4—4** in Fig. 2, illustrating the relationship of the hook socket and reeveway, and showing also the relationship of the ferrule, as seated in the socket, to the cable as contained in the reeveway.

Fig. 5 illustrates the normal use of the present hook with a choker cable, and the application of the cable to a log of normal diameter.

Fig. 6 is an enlarged view showing the method of releasing the cable ferrule from the hook when the cable is applied about a log.

Fig. 7 is a view similar to that of Fig. 3, showing the hook as used for the choking of a log of relatively small diameter.

In the following description, the terms "front," "back," "sidewall," "upper end" or "lower end" and similar identifying terms will be used in consideration of the hook as shown in Figs. 1, 2 and 3.

Referring more in detail to the drawings:

The present hook comprises a one-piece, metal casting, herein designated in its entirety by numeral **10**. This casting comprises a symmetrically shaped block having a slightly greater width across its upper end than across its lower end, and formed through its wider upper end portion, from side to side as seen in Fig. 3, with a cable reeveway **12**; this reeveway being defined by the upper end wall **13** of the hook body **10** which, in central longitudinal section as shown in Fig. 4, is arcuately curved in a downward direction between its ends defining the roof of the reeveway. The reeveway **12** opens at its opposite ends through opposite sidewall portions **10*a*** and **10*b*** of the hollow body, as observed in Fig. 4, and the surfaces which define these openings are rounded off in such manner as to provide flared entrances to the ends of the reeveway. Below the reeveway the hook body **10** is hollowed out to provide a socket **15** for receiving and seating the choker cable ferrule therein.

The lower end portion of the body **10** and the ferrule seating recess **15** therein are closed by an end wall **16**, which provides a flat, horizontal seat **16'** for the end of the choker cable ferrule. The socket **15** is substantially of cylindrical form, as will be understood by reference to its showing in Fig. 3, and opens at its upper end to its full diameter directly into the reeveway **12**. Also, this socket is open substantially to its full width at the back side, that being the left hand side in reference to its showing in Figs. 2 and 3; this opening, designated by reference numeral **18**, extending upwardly from the lower end wall **16** to a level that is less than the diameter of the choker cable below the central point of the upper end wall **13** as will be understood by reference to Figs. 2 and 4.

At is forward or front side, the body 10 is formed with an opening 20 of sufficient size to have the end knob or ferrule of the choker cable passed therethrough in an endwise direction. This opening is located substantially above the level of the horizontal seat provided by end wall 16. Leading downwardly from the lower end of the opening 20, is a wall passage, or slot 22 that continues through the end wall 16 and then inwardly, terminating in a semi-circular end surface as at 23 in Fig. 3 that is centered in the axial line of the body 10. This slot is slightly wider than the diameter of the choker cable to be used with the hook.

In the present drawings, a choker cable has been designated by reference numeral 25 and it is shown to be equipped at its end with a cylindrical knob or ferrule 26 which is applied coaxially thereto; the knob having a diameter that is substantially twice that of the cable. These parts are of the usual form, and are generally standardized in relative proportions.

In order to give a better understanding of the present hook, it will be here explained that in the drawings its parts have been shown substantially in their present preferred proportions. A hook now being made for the handling of logs of small diameter is approximately four inches across its upper end, two and three-fourths inches wide across the lower end, six and one-half inches in overall length. The socket 15 is of a diameter to contain a knob or ferrule of two inches diameter with necessary clearance, and the slot 22 is wide enough for a choker cable of one inch diameter.

The length of the cable ferrule 26 is approximately two and one-half inches and the clearance between its upper end and choker cable as contained in the reeveway as in Fig. 4, is about three-fourths inch. Hooks of larger or smaller sizes would have their parts similarly proportioned.

In the using of the hook, the choker cable 25 is passed through the reeveway 12. At its outer end, not herein shown, it is suitably equipped with means for connection with a cable, hook or other pulling or lifting device used in logging. At its other or inner end, it is equipped as shown with the ferrule or knob 26. To apply and secure the choker cable about a log, its ferrule equipped end is passed around the log as in Fig. 5, and the ferrule then passed endwise through the hook opening 20, for example to the position in which it is designated in dotted lines at 26*a* in Fig. 2, then it is swung downwardly at the cable end through the dotted line position 26*b* to finally seat its inner end upon the lower end wall 16 of the socket 15; the cable passing into and downwardly along slot 22 to the position in which it is shown in full lines, thus closing and securing the cable loop about the log. Pull on the cable, as for dragging or lifting the log, causes the loop to be tightened about the log, and the cable ferrule to be held firmly against displacement from its socket.

To release the cable from about the log, it is first slacked off through the reeveway to an extent sufficient to allow the hook body, if necessary, to be turned from position of Fig. 5 relative to the log, and laid flatly against the log as in Fig. 6 with the hook opening 18 faced away from the log. Also, to such extent that the base end of the hook can be swung up to a position as shown in dotted lines at 10*e* in Fig. 6, and the ferrule equipped end of the cable to be extended from the hook, for example, to the dotted line position 26*x*. It is then possible and easy to disengage the ferrule entirely from the hook by drawing it endwise and downwardly through the hook passages 18 and 20. The fact that the hook body is fully open at the top side, by provision of the side opening 18, makes the swinging of the ferrule away from the hook seat and its easy removal as above described, possible.

By the particular improvements or changes hereinbefore pointed out, particularly by reason of the elimination of the closing wall across the top of the socket

the hooks are made substantially shorter in length and therefore lighter in weight, and more easily handled. Shorter hooks are most practical on smaller logs, and it is with such logs that these hooks are most advantageously used. The design of the reeveway opening into the ferrule socket also has resulted in the self-cleaning action of the hook. However, a very important feature of the design resides in the fact that the choker cable, as contained in the reeveway, operates to prevent accidental disconnection or unseating of the ferrule from the hook socket when the cable becomes slack. In the prior construction of choker hooks, no special provision was made for preventing the ferrule becoming unseated, and in the use of such hooks it frequently happened that when the log rolled and the cable slacked off, the ferrule jumped from the socket. A recess has been previously formed in the top end of the socket and it was anticipated that this would receive the end of the ferrule when the cable became slackened to prevent disconnection. This was helpful, but not always sufficient.

In the present invention the socket 15 opens to its full diameter to the reeveway, thereby eliminating the recess and the additional length and weight required for its inclusion. The ferrule has to clear the cable to be turned from its full line position of Fig. 2 to a position for withdrawal through the opening 20. This can be readily done when the cable is in its Fig. 2 position, but in the event that the cable becomes slack its normal tendency is to move to or toward one of the dotted line positions in which it is shown in Figs. 2 and 4, and in doing this, it offers an obstruction to that turning of the ferrule which is necessary for unseating and disconnection.

The present hook design has resulted in several important advantages over hooks of this type as previously made. First, it has shortened the length of the hook body to a substantial extent; second, it has materially reduced its weight; third, it has eliminated accidental disconnections of the ferrule from the hook; fourth, it has made the manual application and release of the ferrule from the hook body easier, and it has resulted in self-cleaning of the hook and the elimination of wedging gravel or dirt in the reeveway.

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

1. In combination, a choker hook and a choker cable equipped at one end with a ferrule to be removably seated in said choker hook, said choker hook comprising a unitary body portion having front, back and opposite side walls and an upper end wall having an arcuate inner surface defining the roof of a transverse reeveway extending between and opening through the side walls at one end of the hook, an elongate, longitudinally extending socket formed within the body, said body also having a lower end wall defining a base for the socket for seating the ferrule, the upper end of the socket opening into the reeveway whereby the reeveway is an extension of the socket, said body having an opening in its front wall through which the ferrule is adapted to be passed endwise therethrough, a slot in said front wall extending below said opening and into said lower end wall of the socket, said body having an opening in its back wall substantially in alignment with the opening in the front wall and of greater dimensions than the cross sectional dimensions of the ferrule, said ferrule being of a length greater than the distance between those portions of said body defining the lower edge of said opening in the front wall and the lower edges of said reeveway openings in the side walls so that when the cable is slack and in engagement with the lower edges of the reeveway openings in the side walls, the upper end of the ferrule will engage the cable to retard removal of said ferrule through said opening in the front wall of the body.

2. In combination, a choker hook and a choker cable equipped at one end with a ferrule to be removably seated in said choker hook, said choker hook comprising

a unitary body portion having front, back and opposite side walls and an upper end wall having an arcuate inner surface defining the roof of a transverse reeveway extending between and opening through the side walls at one end of the hook, an elongate, longitudinally extending socket formed within the body, said body also having a lower end wall defining a base for the socket for seating the ferrule, the upper end of the socket opening into the reeveway whereby the reeveway is an extension of the socket, said body having an opening in its front wall through which the ferrule is adapted to be passed endwise therethrough, a slot in said front wall extending below said opening and into said lower end wall of the socket, said body having an opening in its back wall substantially in alignment with the opening in the front wall and of greater dimensions than the cross sectional dimensions of the ferrule, the greatest diagonal length of the ferrule being greater than the distance between those portions of said body defining the lower edge of said opening in the front wall and the lower edges of said reeveway openings in the side walls so that when the cable is slack and in engagement with the lower edge of the

reeveway openings in the side walls, the upper end of the ferrule will engage the cable to retard removal of said ferrule through said opening in the front wall of the body.

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