Dec. 6, 1966 M. L. LAHARTY 3,289,259

CHOKER

Filed Oct. 13, 1965 2 Sheets-Sheet 1

Fig. 1

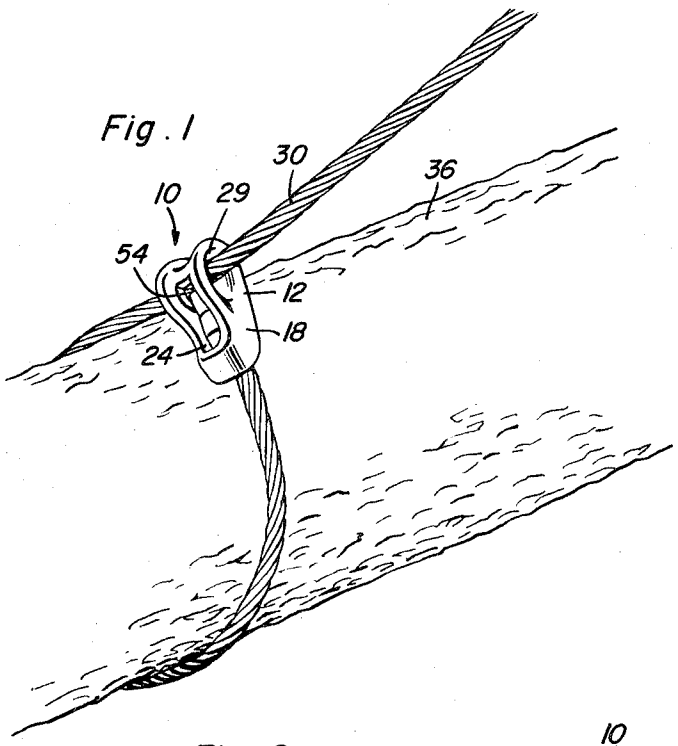



Fig. 3

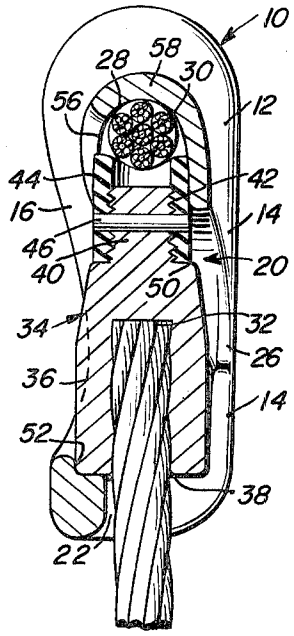



Fig. 2

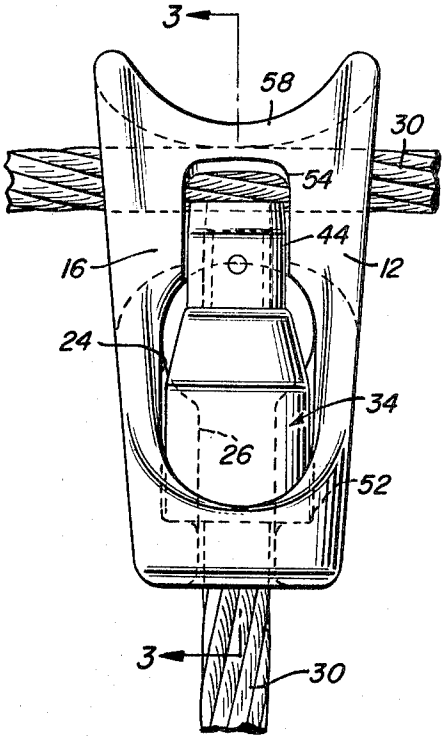



Fig. 4

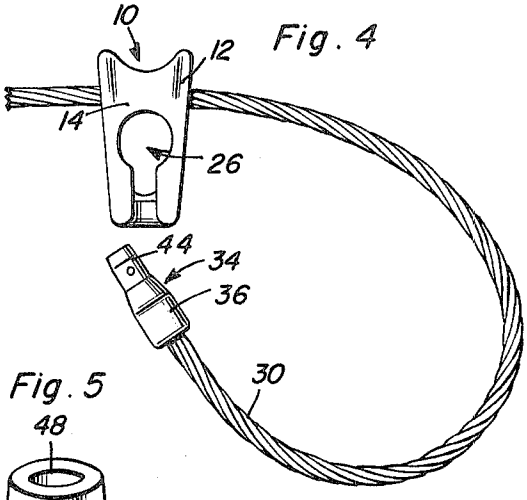
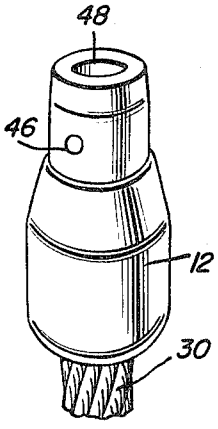



Fig. 5




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Dec. 6, 1966 M. L. LAHARTY 3,289,259

CHOKER

Filed Oct. 13, 1965 2 Sheets-Sheet 2

Fig. 6

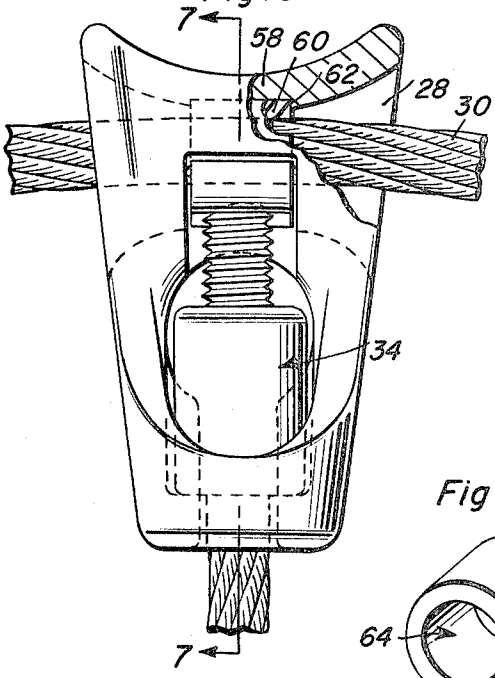



Fig. 7

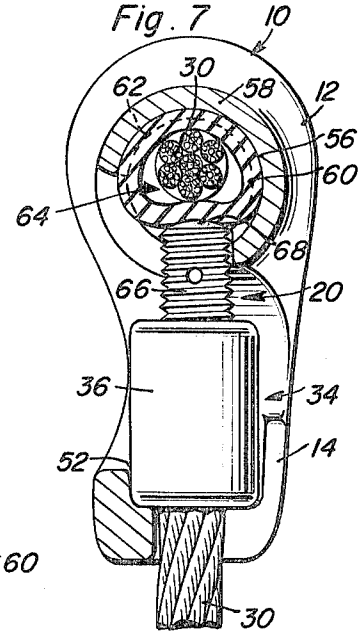



Fig. 8

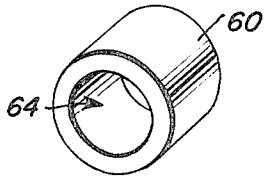



Fig. 9

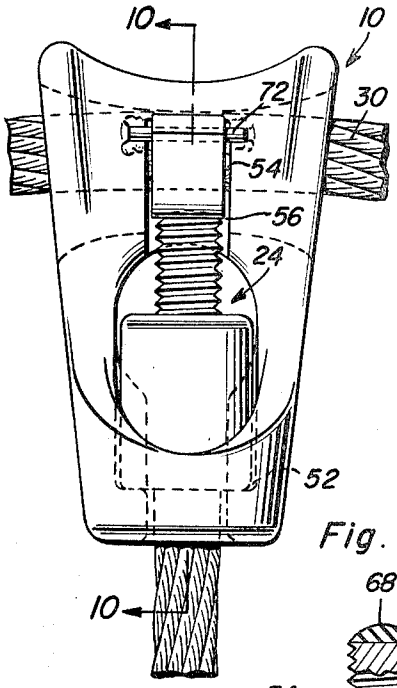



Fig. 10

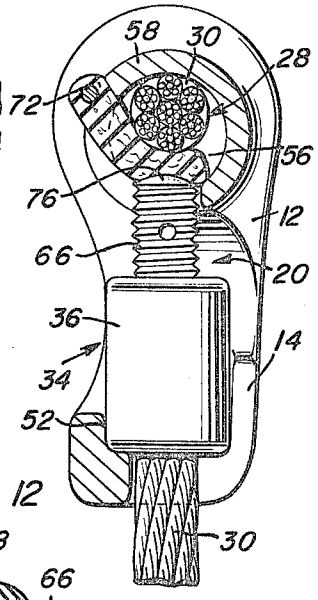



Fig. 11

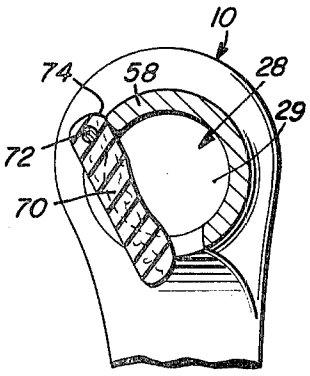
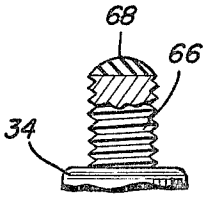



Fig. 12




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United States Patent Office 3,289,259 Patented Dec. 6, 1966



3,289,259

# CHOKER

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6 Claims. (Cl. 24—123)

This invention relates generally to choker hooks for use in logging and more particularly to a novel improved choker hook design of the general type described in U.S. Patent No. 2,828,156 issued to A. E. Hansen on March 25, 1958.

Conventional choker hooks of the type disclosed in the Hansen patent have gained widespread use in the logging industry due to increase utilization of wood, and particularly the need for utilizing timber which is relatively inexcessible. Accordingly, the practice of using cables in order to lower such inexcessible timber down the sides of hills or mountains or the like has arisen. The aforementioned choker hooks are used in conjunction with such lowering cables in order to reeve the cables, or form slip loops within which a log or logs can be held for dragging or lowering of the logs.

However, a recognized deficiency in the use of such conventional choker hooks as disclosed in the Hansen patent is that the slip loops formed thereby do not provide a tight fit about the logs, and consequently, in downhill logging many logs are lost out of the slip loops due to the fact that the logs slide or roll downhill faster than the logging winch can reel in the slack in the cable. When slack occurs in the cable, the cable will feed back through the choker bell thus allowing the slip loop to loosen, thereby allowing the log to slide out of the loop. This deficiency in conventional choker hooks has necessitated the use of additional labor inasmuch as when a slip loop becomes loosened, a worker must be sent out to re-choke the log by retightening the slip loop. In extreme cases, the loosening of slip loops due to various reasons has necessitated as much as a 50% increase in labor time during a logging operation.

Accordingly, the present invention has been devised in order to eliminate such slipping of the cable through the choker bell in order to obviate the aforementioned objections to conventional choker hooks. Briefly, this invention consists of a choker bell and a ferrule, the ferrule being mounted on the end of a logging cable and being adapted to be seated in the choker bell in generally conventional fashion. However, various means have been devised by this invention to eliminate the slipping of the cable through the reeve way provided in the choker bell, the means including a sleeve mounted on the ferrule, a sleeve in the choker bell through which the cable extends and a pivotal arm in the choker bell, all of the above means being adapted for frictional engagement with the cable in order to prevent slippage thereof through the reeveway.

It is an object of the present invention to provide a novel improved choker construction including means for preventing objectionable slippage of the slip loop conventionally formed by choker hooks for use in conjunction with logging cables.

It is another object of the present invention to provide various means useful in conjunction with choker hooks for frictionally engaging a logging cable reeved through the choker bell in order to prevent slippage of the logging cable therethrough.

It is a still further object of the present invention to provide a novel and improved choker hook device for use with logging cables which may be fabricated of readily available and inexpensive material in order to provide various means for preventing slippage of a logging cable through the choker bell.



It is another object of the present invention to provide three embodiments of improved choker hook construction which prevent slippage of a choker cable which is conventionally reeved through the choker bell.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of a log having a logging cable reeved thereabout, including the improved choker hook device of the present invention in place thereon;

FIGURE 2 is an enlarged front elevational view of the choker hook device illustrated in FIGURE 1;

FIGURE 3 is a vertical sectional view taken substantially in the plane of the line 3—3 of FIGURE 2;

FIGURE 4 is a perspective view similar to that of FIGURE 1 illustrating the choker bell and ferrule of the choker hook illustrated in FIGURE 1 in disengaged relationship;

FIGURE 5 is an enlarged perspective view of the ferrule illustrated in FIGURE 4;

FIGURE 6 is a front elevational view, partly broken away, of a modified embodiment of choker hook;

FIGURE 7 is a vertical sectional view taken substantially on the plane of the line 7—7 of FIGURE 6;

FIGURE 8 is a perspective view of the annular sleeve illustrated in FIGURES 6 and 7;

FIGURE 9 is a front elevational view similar to that of FIGURE 6 of a still further modified embodiment of the choker hook comprising the present invention;

FIGURE 10 is a vertical sectional view taken substantially on the plane of the line 10—10 of FIGURE 9;

FIGURE 11 is a partial sectional view similar to that of FIGURE 10 illustrating the operating parts of the choker bell in an inoperative position; and

FIGURE 12 is a partial elevational view, partially in section, of the lug end of the ferrule illustrated in FIGURE 10.

Referring now to the drawings with more particularity, and specifically to FIGURES 1–5, reference numeral 10 generally denotes the choker hook comprising a first combination of the present invention. The choker hook 10 is constructed as a one-piece, metal casing body member or choker bell 12 of conventional exterior shape and material, the choker bell 12 including back wall 14, front wall 16 and similar side walls 18. The body member 12 further includes a ferrule receiving chamber 20 therein, the chamber 20 opening to the exterior of body member 12 by the downwardly directed opening 22 and frontly directed elongated opening 24. A reeveway 28 is provided through the side walls 18 and chamber 20, the reeveway 28 including openings 29 in side walls 18 and adapted to accommodate a logging or choker cable 30 therethrough in order to provide a slip loop arrangement as illustrated in FIGURE 1.

The cable 30 has mounted on an end 32 thereof a ferrule generally denoted by reference numeral 34, the ferrule 34 being adapted to be received within the ferrule receiving chamber 20 in order to complete the slip loop illustrated in FIGURE 1. Thus, a log 36 or several logs may be accompanied within the loop provided by the cable 30 in conjunction with the choker hook and ferrule.

The ferrule 34 comprises a generally cylindrical member 36 of metallic material such as iron or steel, the body member 36 including a cable receiving chamber 38 therein in which the end 32 of cable 30 is seated, as for example by being forced to fit therein. Of course, it will be appreciated that the cable 30 is first threaded through the open-

ing 22 in body member 12 before the ferrule 34 is mounted thereon, inasmuch as the ferrule 34 is of larger diameter than the opening 22. The ferrule 34 further includes an upwardly projecting lug portion 40 of smaller diameter than the body member 36, the lug 40 including a coarse exterior threaded surface 42 thereon. An annular cylindrical rubber sleeve 44 is mounted on the lug 40 and retained thereon in part by the coarse threaded exterior portion 42. The sleeve 44 is preferably of substantially flexible rubber material reinforced by fiber or steel wire for added strength, the sleeve extending outwardly past the upper end of lug 40. The sleeve 44 is further held on the lug 40 by retaining pin 46 which extends through an opening in the lug as well as through the sleeve 44. The sleeve 44 is open at the upper end 48, which end extends past the upper end of lug 40, this upper end portion of sleeve 44 thus being flexible. Further, as will be best observed in FIGURE 3, the bottom end of sleeve 44 is seated against a shoulder 50 formed in body member 36 by the reduced diameter of lug 40.

The ferrule receiving chamber 20 includes a socket-like recess 52 therein, which recess generally conforms to the shape of the bottom of ferrule 34 and which is adapted to receive the bottom portion of ferrule 34 therein as illustrated in FIGURE 3. The frontly directed opening 24 in body member 12 includes an upper slot extension 54 through which the sleeve 44 and lug 40 may be moved in order to seat the ferrule 34 in socket recess 52. Also, as will be apparent, this slot portion 54 will allow the ferrule 34 to be removed from the chamber 20 through the opening 24 by a twisting forward movement thereof. Further, the chamber 20 includes an upper portion 56 adjacent the top wall 58 of body 12 through which the cable 30 extends, this portion 56 comprising a portion of the aforementioned reeveway 28.

The over-all length of ferrule 34, including the sleeve 44 on lug 40, is somewhat greater than the distance from the bottom of socket recess 52 to the bottom of a cable portion 30 positioned in chamber portion 56. Thus, it it will be readily apparent that slip loop illustrated in FIGURE 1 may be tightened down against a log such as log 36 with the ferrule 34 unseated in recess 20, at which time the ferrule 34 may be twisted in order to move into chamber 20, the sleeve 44 passing through the slot 54 until the upper flexible portion of the sleeve contacts cable 30. At this time, the ferrule 34 may be forced into the chamber 20 until the bottom portion of the ferrule is seated in socket recess 52, at which time it will be readily apparent from viewing FIGURES 2 and 3 that the upper flexible portion of sleeve 44 will be in frictional engagement with the cable 30, thus comprising a releasable frictional engagement means for retaining the cable 30 in place in the choker hook 10. Thus, if slack were presented in the portion of cable 30 outwardly of the slip loop, the cable 30 would not slide through reeveway 28 due to the frictional engagement thereby providing a major improvement over prior art devices of this general type.

Referring now to FIGURES 6–8, a second preferred embodiment of the choker hook and ferrule is illustrated. In this embodiment of the invention the choker hook 10 is substantially similar to the choker hook described in relation to the embodiment illustrated in FIGURES 1–5 above. The choker hook 10 includes a choker bell 12 having the ferrule receiving chamber 20 therein, the chamber including an upper portion 56 adjacent the top wall 58 of choker hook body member 12. An annular cylindrical sleeve member 60, preferably of rubber material reinforced by fabric or steel wire or the like is positioned in the chamber portion 56, the sleeve 60 being retained in a recess 62 in top wall 58. The sleeve 60 is thus positioned in the reeveway 28 and the cable 30 will extend through the cavity 64 in sleeve 60. The sleeve 60 is relatively flexible due to the nature of the material of which it is fabricated, and has a normal inner diameter which is greater than the outer diameter of the cable 30. The ferrule 34 in this embodiment of the invention is substantially similar to that disclosed in relation to the embodiment of FIGURES 1–5, and includes the generally cylindrical body portion 36 which is mounted on the end 32 of cable 30. The ferrule 34 in this embodiment of the invention, includes a lug portion 66 which is substantially similar to lug 40 described above, however, the sleeve 44 is eliminated, and the lug 66 is made somewhat longer than lug 40, being of the some length as sleeve 44. Further, the lug 66 includes a dome-shaped top portion 68 on the upper end thereof. Thus, it will be observed in FIGURES 6 and 7 that as the ferrule 34 is seated in socket recess 52 of chamber 20, the dome 68 of lug 66 will engage sleeve 60, forcing it upwardly into frictional engagement with the cable 30, thus releasably retaining the cable 30 in the choker bell. Of course, it should be appreciated that in this embodiment of the invention as well as in the embodiment described above, it is necessary to have a rubber-like member in frictional engagement with the cable 30 rather than a direct metal on metal engagement, inasmuch as such prevents excessive wear to the cable.

Referring now to FIGURES 9–12, a third preferred embodiment of the invention is illustrated. In this embodiment of the invention a choker bell 12 similar to the choker bells of the above two embodiments is provided with a swingable arm 70, mounted on a pin 72 which extends across the slot portion 54 of frontly directed opening 24. The arm 70 is preferably of a rubber type, fiber or steel wire reinforced material and is normally positioned as illustrated in FIGURE 11 inasmuch as the upper portion 74 thereof will contact the top wall 58 of choker bell 12 to limit the downward swing of the arm 70. The choker bell 12 is also provided with the reeveway 28 similar to the reeveways described in relation to the embodiments of FIGURE 1–5 and 6–8 above. The cable 30 extends through reeveway 28 as illustrated in FIGURES 9 and 10.

The ferrule 34 used with this embodiment of the invention is identical to the ferrule of the embodiment of FIGURES 6–8, including the body portion 36 mounted on the end of cable 30, the lug 66 and the dome-shaped top portion 68 on lug 66. Thus it will be observed in FIGURES 9 and 10 that the ferrule 34 may be twisted into seating engagement in the socket recess 52 choker bell 12 at which time the arm 70 will be swung inwardly into the upper chamber portion 56, the dome top 68 of lug 66, when in its vertical position compressing the arm 70 as illustrated at 76 at which time the arm 70 frictionally engages the cable portion extending through reeveway 28. Of course, when the ferrule 34 is swung out of ferrule receiving chamber 20 the arm 70 will swing down to the position illustrated in FIGURE 11, at which time the cable is released from frictional engagement with the arm 70. Thus, it will be apparent that this embodiment of the invention also provides a rubber-type member which is biased into frictional engagement with the cable reeved through the choker hook in order to frictionally retain the cable in the choker hook in order to form a non-slip loop for retaining a log during downhill traversal logging operations.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A log retaining device comprising in combination, a cable, a ferrule mounted on an end of said cable, a choker bell, said choker bell comprising a unitary body member having a ferrule receiving chamber therein, the chamber opening to the front and bottom of said body member, said ferrule adapted to be seated in said cham-

ber, reeveway means in said body member for receiving a portion of said cable transversely therethrough, and resilient means for frictionally retaining said cable in said reeveway means and being urged into contact with said cable by said ferrule when said ferrule is seated in said chamber.

2. The combination of claim 1 wherein said ferrule comprises a generally cylindrical body adapted to be mounted on one end of said cable, a portion of said cable adapted to be seated in said cable receiving reeveway means, the end of said ferrule opposite said one end including means for frictionally engaging said cable when said ferrule is seated in said ferrule receiving chamber.

3. The combination of claim 2 wherein said cylindrical ferrule includes lug means thereon at the end thereof opposite said one end, flexible sleeve means on said lug means, said sleeve means extending past the end of said lug means and adapted to frictionally engage said cable when said ferrule is moved in said ferrule receiving chamber.

4. The combination of claim 1 wherein said retaining means comprises means mounted in said reeveway means for engaging said cable, said ferrule comprising a generally cylindrical member having a cable receiving chamber opening at one end thereof, an end portion of said cable adapted to be seated in said cable receiving chamber, the end of said ferrule opposite said one end having lug means thereon, said lug means being adapted to engage said engaging means for forcing said engaging means into tight frictional engagement with the cable portion extending through said reeveway means.



5. The combination of claim 4 wherein said engaging means comprises a cylindrical rubber sleeve mounted in said reeveway means, said sleeve having a longitudinally extending chamber therethrough, the diameter of said choker being of greater diameter than said cable, said lug means engaging the outer surface of said sleeve and forcing the inner surface thereof into tight frictional engagement with said cable when said ferrule is seated in said ferrule receiving chamber.

6. The combination of claim 4 wherein said engaging means comprises an arm rotatably mounted on said unitary body member and adapted for pivotal movement into said reeveway means, said lug means pivotally swinging said arm into tight frictional engagement with said cable when said ferrule is seated in said ferrule receiving chamber.

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BERNARD A. GELAK, *Primary Examiner.*