Nov. 17, 1931. K. HEISSER 1,832,388

ROPE AND CORD TIGHTENING DEVICE

Filed April 25, 1931

Fig. 1

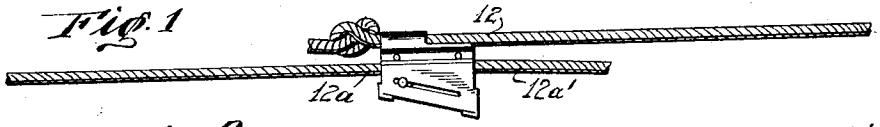


Fig. 2

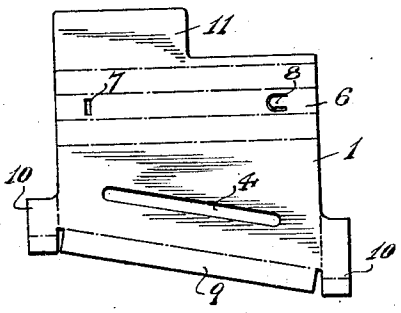


Fig. 3

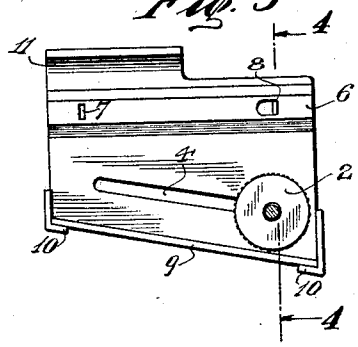


Fig. 4

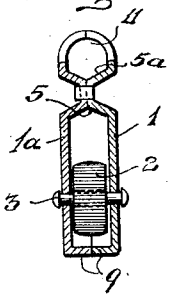


Fig. 5

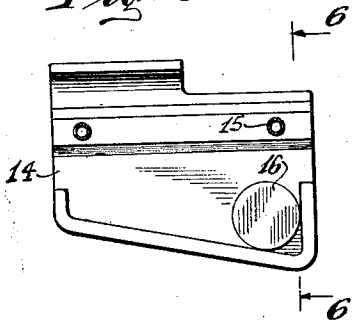


Fig. 6

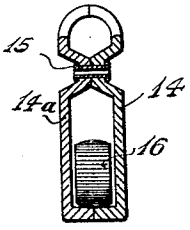


Fig. 7

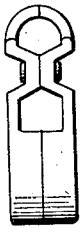


Fig. 8

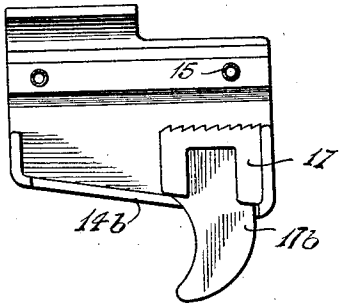


Fig. 9

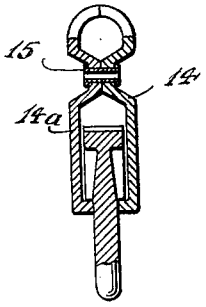
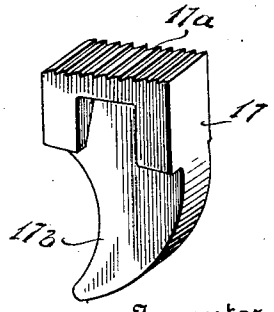


Fig. 10



Inventor

Karl Heisser

By his Attorney

Joseph Allison

Patented Nov. 17, 1931 1,832,388

UNITED STATES PATENT OFFICE

KARL HEISSER, OF ELIZABETH, NEW JERSEY

ROPE AND CORD TIGHTENING DEVICE

Application filed April 25, 1931. Serial No. 532,767.

This invention relates to improvements in rope and cord tightening devices and one of the objects being to provide a simple and efficient means to tighten ropes and cords as for instance in service with clothes-lines, tent fastening ropes, tackles and many other purposes.

Another object is to produce a rope and cord tightening device which due to its simplicity of design will permit its manufacture in large quantities and at the possibly lowest cost.

These and other objects I attain by the novel combination and arrangement of various parts and elements fully described in this specification and illustrated in the accompanying drawings in which:

Figure 1 illustrates such a rope and cord tightening device in action.

Figure 2 is a development or blank out of which the shell members will be formed.

Figure 3 represents a partly sectional view disclosing the operating members.

Figure 4 represents a sectional side view along lines 4—4 in Figure 3.

Figure 5 represents a sectional front view of a modified form of the device shown in Figure 3.

Figure 6 represents a sectional view along lines 6—6 in Figure 5.

Figure 7 represents an end view of Figure 6.

Figure 8 represents the front view of a still further modified arrangement, of such a rope tightening device.

Figure 9 represents a sectional side view of Figure 8.

Figure 10 is an enlarged perspective view of the cord gripping member shown in Figure 8.

The rope and cord tightening device illustrated in Figures 2, 3 and 4, comprises the main enclosing shells 1 and 1*a*, these shells being identically alike except oppositely formed. A flat disc-like roller 2, made of metal or composition, whose outer circumference is suitably curved and may be either of smooth or knurled surface is provided to freely move upon the inclined platform *q*. The pin or rivet member 3 fitting loosely into the centrally positioned hole in roller 2 extends through slots 4, in shell members 1 and 1*a*, and terminates into suitably shaped heads or buttons as shown in Figure 4, this pin serves the purpose of guiding and operating roller 2.

Shell members 1 and 1*a*, as shown in Figure 4, are shaped to provide, when assembled, two horizontal V-shaped grooves 5 and 5*a*. The interposed platform 6, see Fig. 3, is provided with oppositely positioned interlocking slots 7 and tongues 8 for the purpose of securely holding the shell members together. The lower portions or aprons of the shell members 1 and 1*a* are bent up to form a suitably inclined platform 9 upon which roller 2 is supported. Protrusions 10, on either side, fold under platform 9 to serve as a support and reinforce the platform structure. Another lug 11, positioned on the upper portion of shells 1 and 1*a*, is shaped to provide a passage permitting the insertion of the knotted rope or cord end 12, as indicated in Figure 1.

The shell members 1 and 1*a* are preferably made of sheet metal and both halves may be pressed out of the same form or blank shown in Figure 2 by simply reversing the bending operations to obtain a right and left hand shell. The dash dotted lines in Figure 2 indicate the line along which the bending operation is performed.

In Figures 5, 6 and 7 a slightly modified form of the same arrangement is illustrated. In place of a perforated and rough surfaced roller 2, a smooth surfaced disc 16 is utilized. The shell members 14 and 14*a*, are in this case made of castings and held together by means of eyelets 15.

A still further modification is shown in Figures 8, 9 and 10. In place of the rollers 2 or 16, a sliding platform 17, provided with a toothed surface 17*a*, see Figure 10, and an operating finger 17*b*, is utilized. Shells 14 and 14*a*, for this purpose are recessed to form a slot 14*b* for finger 17*b*.

The device functions as follows:

One end of a rope is inserted into the sleeve like opening 11, formed by the shell members and the end knotted for anchoring as shown in Figure 1. The other end of the rope, marked 12*a*, is then inserted and fed through

the lower openings, tightened and when the desired tension is reached, roller 2 by means of headed pin member 3, is pushed upwardly thereby securely wedging and holding the rope between the roller and the V shaped groove 5.

Now to release the rope all that is required is a slight pulling, as if tightening, on the overhanging portion 12*a'* of the rope and roller 2 will automatically release itself and slide down the inclined surface 9, ready for the next tightening operation.

The functioning of the modified device illustrated in Figures 5 and 6, is the very same with the exception that disc 16 is brought into engagement by slightly tilting the device forwardly whereby disc 16 will roll into contact with the rope and automatically wedge itself tightly into position.

The wedge action of the flat wedge member 17, shown in Figures 8 and 9, is similar except this member is forced in and out of engagement by means of finger portion 17*b*.

Having thus fully described my invention, I do not wish to confine myself to the exact details as shown on the drawings, it being apparent that there may be considerable variations in the details of the construction without departing from the spirit of this invention.

I claim:

1. In a rope tightening device of the character described, a bi-sectional enclosing case comprising a pair of oppositely positioned halve-shell members, fastening means to join said halve-shell members, said shell-members shaped to form two substantially horizontally positioned V shaped guide channels, the upper channel terminating into a suitable rope fastening sleeve, the lower channel extending into vertically descending aprons terminating into suitable inclined platforms, said inclined platforms reinforced and held in position at both ends by suitable supporting prongs forming an integral part of said shell members, and a floating disc centrally perforated and freely movable upon said inclined platforms, said floating disc in turn operated by a loosely fitting headed pin member guided by correspondingly positioned slots provided in said apron portion of said shell members, substantially as and for the purpose set forth.

2. In a rope tightening device of the character described, an enclosing case comprising a pair of oppositely extending shell members, fastening means to join said shell members, said shell members shaped to provide an inclined platform at their base and two suitably positioned horizontally arranged V shaped rope guide channels, the upper V shaped horizontal rope guide channel further extended to form a bi-sectional rope fastening sleeve, and a centrally perforated floating disc disposed to freely move upon said inclined platform, said perforated disc in turn operated by means of a loosely fitting headed pin member suitably guided by correspondingly positioned slots provided in said shell members, substantially as and for the purpose set forth.

Signed at the city of New York, in the county of New York and State of New York, this 21st day of April, A. D. 1931.

KARL HEISSER.