Dec. 4, 1923. 1,476,218

A. PREMRO

ROPE GRIP FOR WELL DRILLING APPARATUS

Filed May 16, 1923

FIG. 1.

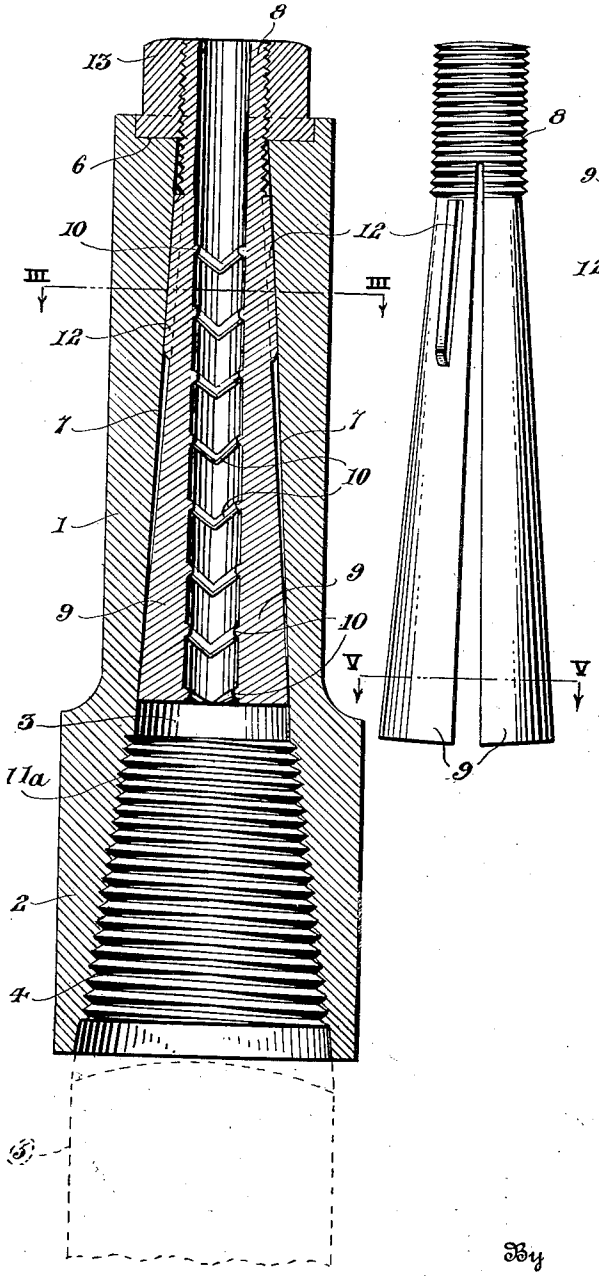


FIG. 2.

FIG. 3.

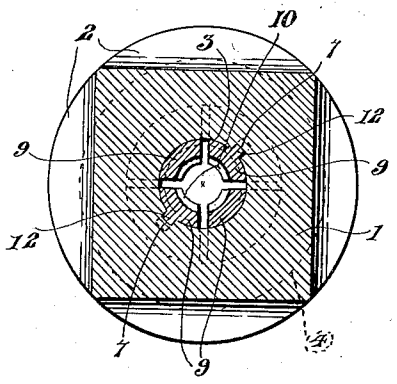


FIG. 4.

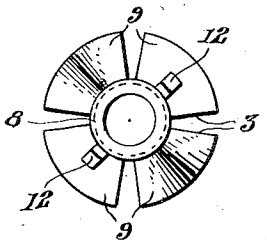
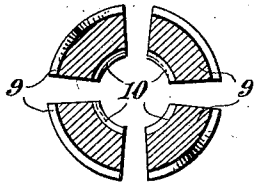


FIG. 5.



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Patented Dec. 4, 1923. 1,476,218

UNITED STATES PATENT OFFICE.

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ROPE GRIP FOR WELL-DRILLING APPARATUS.

Application filed May 16, 1923. Serial No. 639,373.

To all whom it may concern:

Be it known that I, ANTON PREMRO, a subject of the King of Italy, residing at Eldred, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Rope Grips for Well-Drilling Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in rope grips for well drilling apparatus and has for a primary object to provide a sliding wedge grip inclosing a rope or cable with the grip confined within the tapered bore of a casing.

A further object of the invention is to provide a rope grip for well drilling apparatus wherein a grip that is slidably mounted within a casing has a tongue and groove connection therewith to prevent rotary movement of the grip within the casing.

Another object of the invention is to provide in a rope grip for well drilling apparatus of the type above set forth locking means associated with the grip and casing for holding the grip in its operative position in clamping engagement with a rope or cable.

With the above and other objects in view as the nature of the invention is better understood, the same consists of the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing, wherein like reference characters designate corresponding parts throughout the several views,

Figure 1 is a longitudinal sectional view of a rope or cable grip constructed in accordance with the present invention and showing the binding nut engaging the grip and casing for holding the grip in its operative position,

Figure 2 is a side elevational view of the grip or clamping wedge removed from the casing,

Figure 3 is a cross-sectional view taken on line III—III of Fig. 1 showing the tongue and groove connection between the rope clamp and casing,

Figure 4 is a top plan view of the rope grip shown in Fig. 2, and

Figure 5 is a cross-sectional view taken on line V—V of Fig. 2.

Referring more in detail to the accompanying drawing, there is illustrated a rope or cable grip for use in connection with well drilling apparatus, the grip including a casing 1 having an enlarged head 2 at the lower end thereof, the casing being provided with an outwardly tapering bore 3 extending completely therethrough with the lower end thereof threaded as at 4 to support a drilling tool 5 illustrated by dotted lines in Fig. 1. The upper end of the casing 1 is provided with an annular seat 6 spaced inwardly of the outer edge thereof while diametrically opposite grooves 7 are formed in the wall of the bore 3 substantially over the entire unthreaded portion thereof as shown in Fig. 1.

The rope or cable clamp, shown more clearly in Figs. 2, 4 and 5 includes an externally threaded collar 8 carrying a depending outwardly flaring tubular member that is longitudinally split to provide a plurality of clamping legs 9 with the inner faces of the legs 9 provided with ribs 10 for gripping a rope or cable. Two of the legs 9 as shown in Fig. 4 carry adjacent the upper ends thereof, relatively short longitudinally extending tongues 12 that are slidably received in the grooves 7 formed in the bore of the casing 1.

In the use of the grip, one end of a rope or cable is passed between the clamping arms 9 and through the screw collar 8 as illustrated, the clamping member shown in Fig. 2 being then inserted in the casing 1 with the tongues 12 slidably positioned in the grooves 7 with the upper end of the threaded collar 8 projecting upwardly of the casing 1. The clamping nut 13 disposed in the casing pocket 6 is then further threaded upon the collar 8 for shifting the clamp axially of the casing with the legs 9 of the clamp engaging the inner tapered wall 3 of the casing 4 to be moved into gripping engagement with the rope or cable, the nut 13 retaining the arm 9 in clamping engagement while the cooperating tongue and groove connection between the rope clamp and casing prevent rotary movement of the clamp relative to the casing. The clamping nut 13 maintains a proper gripping engagement of the clamping arms with the rope or cable and presents a substantial structure that will not be affected by shocks or vibrations always present in devices of this character.

While there is herein shown and described the preferred embodiment of the present invention, it is nevertheless to be under-

stood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What is claimed as new is:—

1. In a rope grip for well drilling apparatus, a casing having a tapering bore and an annular seat spaced from its upper end, a clamp including a screw collar and depending clamping legs longitudinally slidable in the casing bore, a clamping nut threaded on the collar and positioned in said seat in the upper end of the casing to hold the clamping legs in binding engagement with a rope and immovable relative to the casing, and a tongue and groove connection between the casing and clamp to prevent relative rotary movement.

2. In a rope grip for well drilling apparatus, a casing having a tapered bore and an annular seat spaced from its upper end, a clamp including a continuous one-piece screw collar and a plurality of depending normally spaced clamping legs, formed by longitudinally splitting said clamp for a portion of its length, longitudinally slidable in the casing bore, a clamping nut threaded on the collar and positioned in said seat in the upper end of the casing to hold the clamping legs in binding engagement with a rope and immovable relative to the casing, and cooperating means including tongue and groove connections carried by the casing and clamp to prevent rotary movement of the clamp relative to the casing.

In testimony whereof I affix my signature.

ANTON PREMRO.