G. F. BELL.
OIL SAVING CLAMP.
(Application filed Aug. 21, 1901.)

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses:

By George F. Bell, Inventor:

Attorneys.

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UNITED STATES PATENT OFFICE.

GEORGE F. BELL, OF SISTERSVILLE, WEST VIRGINIA.

OIL-SAVING CLAMP.

SPECIFICATION forming part of Letters Patent No. 689,044, dated December 31, 1901.

Application filed August 21, 1901. Serial No. 72,624. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. BELL, a citizen of the United States, residing at Sistersville, in the county of Tyler and State of West Virginia, have invented a new and useful Oil-Saving Rope-Clamp for Oil-Wells, of which the following is a specification.

This invention relates to oil-saving rope-clamps for oil-wells, and has for its object to provide a simple and efficient form of mechanism for relieving all strain from the wrapping or woolding of the drill-cable, whereby such wrapping will be effectively shielded from wear or damage, resulting in an increased efficiency in preventing the escape of oil from the well.

A further object is to arrange the mechanism for engaging the drill-cable to hold the clamp in position thereon that the same may be readily adjusted to permit movement of the clamp on the cable as the drill descends.

With these and other objects in view the invention consists in the novel construction and combination of parts of an oil-saving rope-clamp for oil-wells, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into effect, it being understood that the elements herein exhibited may be varied or changed as to shape, proportion, and extent manner of assemblage without departing from the scope of the invention, and in these drawings—

Fig. 1 is a view in sectional elevation exhibiting a clamp characterizing this invention. Fig. 2 is a view in horizontal section, taken on the line 2 2, Fig. 1. Fig. 3 is a detached view in plan of the stuffing-box.

In the present instance only the wooled cable-clamp and the usual hollow plunger carried by the stuffing-box thereof are shown, the easing-head and its appurtenances being omitted, as they form no part of the present invention and may be of the usual or of any preferred construction.

The clamp comprises a head composed of a stuffing-box 1, a gland 2, and a J-bolt 3, with its adjusting mechanism for rigidly securing the clamp upon the drill-cable 4. The lower portion of the clamp carries the usual hollow plunger 5, common to devices of this character. The stuffing-box 1 is provided with a centrally-disposed socket 6, having an opening 7 arranged centrally thereof, and with two threaded orifices 8 to be engaged by the threaded studs or bolts 9. (Clearly shown in Figs. 1 and 2.) As herein shown, the stuffing-box and the gland are approximately hexagonal when viewed in plan; but it is to be understood that they may be of other contours and still be within the scope of the invention. The socket 6 is engaged by a boss 10, arranged on the lower side of the gland 2, the under face of the boss being provided with a recess 11 for a purpose that will presently appear. The gland is provided with orifices 12 to be engaged by the studs or bolts 9, the upper end of which latter carry nuts 13, which serve to hold the gland rigidly associated with the stuffing-box. The gland is provided on one side with a lateral orifice 14, which communicates with a chamber 15 on the opposite side of the said gland, the orifice and chamber being shown in this instance approximately rectangular, although they may be otherwise shaped; but inasmuch as it is desired that the J-bolt shall be held from any motion under the operation of the drill, it is preferred to make these parts in the shape shown. The chamber 15 is engaged by the curved head 16 of the J-bolt, 85 and the shank 17 of said bolt projects through the orifice 14 and carries on its outer end a nut 18, preferably, as shown in Fig. 2, of cup shape, whereby the said nut may be readily turned by hand, thereby dispensing with the employment of a wrench for the purpose. Instead of employing the form of nut shown the same may be an ordinary wing-nut or a polygonal nut, and as this will be readily understood illustration is deemed unnecessary.

The drill-cable 4, which is preferably of metal, is provided with a wrapping or woothing 19, as usual in devices of this character, and is of a smaller diameter than the opening provided for its reception extending through the stuffing-box and through the gland, whereby when the clamp is to be adjusted upon the cable there will be no interference with the wrapping which would tend to strip it from
the cable. As the cable is thus of necessity
smaller than the openings in the parts re-
ferred to, it is therefore essential that suit-
able means should be provided whereby when
the gland is seated in the stuffing-box the
wrapping will be so compressed as to present
an oil-tight closure, and to effect this result
the recess 11 on the under side of the boss of
the stuffing-box is provided, this recess op-
erating to house a packing or gasket 20, for-
med by the packing when the gland is
bolted in position upon the stuffing-box. The
manner in which this is accomplished will be
readily understood when it is borne in mind
that the wrapping is loosely assembled with
the strands of the cable, as when the gland
is pushed down on the cable the packing will
be thrown off the Boss 11 and the bunch thus
presented will be confined within the recess,
where it is firmly compressed around the cable
when the nuts 13 are tightened.

In adjusting the clamp upon the cable the
nut 18 of the J-bolt is loosened, thereby free-
ing the hook thereof from engagement with
the cable, and the nuts 13 are loosened to free
the gasket 20, formed by the compressed
length of the woolding, after which the drill-
cable is lowered to the desired point. The
gland is then pushed down upon the cable,
thus, as described, gathering in front of it a
bunch of the wrapping, after which the nuts 13
are tightened, thus confining the gasket
or packing securely in place. The nut 13 of
the J-bolt is now tightened, thereby causing
its hook 16 firmly to bind or clamp the cable
against the rear wall of the chamber 13, thus
transferring all strain from the packing, so
that as the clamp is vertically reciprocated
under the action of the drill the J-bolt, by its
coaction with the wall of the chamber 13, will
operate to effect the lifting of the clamp and
the hollow plunger 5. Now should a "gusher"
be struck the oil will rush up the well-tubing
and into the hollow plunger 5, but will be
prevented from passing out through the top
of the gland by reason of the packing 20, but
will be forced to escape through the lateral
escapes in the casing-head provided for the
purpose.

It will be seen from the foregoing descrip-
tion that while the device of this invention is
exceedingly simple in construction it will be
found of highest efficiency and durabil-
ity in use and may be used in conjunction
with the ordinary drill-cable and casing-head
commonly employed without necessitating
any change in their structural arrangement.

Having thus fully described the invention,
what I claim as new, and desire to secure by
Letters Patent, is—

1. As an article of manufacture, an oil-sav-
ing rope-clamp comprising a centrally-orificed
stuffing-box provided with a socket, a cen-
trally-orificed gland having a boss to engage
the socket and provided in its under face with
a recess, a laterally-operable bolt having a
hooked end disposed within the head, and
adjustable means connecting the stuffing-box
and the gland.

2. In a device of the character specified, a 70-
head comprising a stuffing-box provided with
a socket, a gland having a boss to engage the
socket, said boss being provided with a re-
cess in its under face, an opening through the
gland and the stuffing-box for the reception
of a woddled drill-cable, means for clamping
the gland to the stuffing-box to cause the
woolding of the cable to fill the recess in the
gland to present a packing, and means car-
ried by the gland to clamp the drill-cable rig-
idly therein.

3. In a device of the character specified, the
combination with a head having an orif-
ces throughout its length, a woddled drill-cab-
le of less diameter than and passing through
the orifice, means disposed intermediate of
the length of the head to compress a portion
of the woolding to present a packing, and
means carried by the head to clamp the cable
rigidly in the head.

4. In a device of the character specified, a
head comprising a stuffing-box provided with
a socket, a gland having a boss to engage the
socket, said boss having a recess in its under
face, a woddled cable passing through a cen-
trally-disposed orifice in the stuffing-box and
the gland, said orifice being of greater diame-
ter than the cable, a laterally-operable bolt
having a hooked end to engage the cable to
clamp the same within the head, and adjust-
able means connecting the stuffing-box and the
head.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

GEO. F. BELL.

Witnesses:

R. L. GREGORY,
C. E. CHADDERDEN.