June 17, 1924. 1,498,522

H. R. STANDLEE

OIL SAVER

Filed Sept. 1, 1923 2 Sheets-Sheet 1

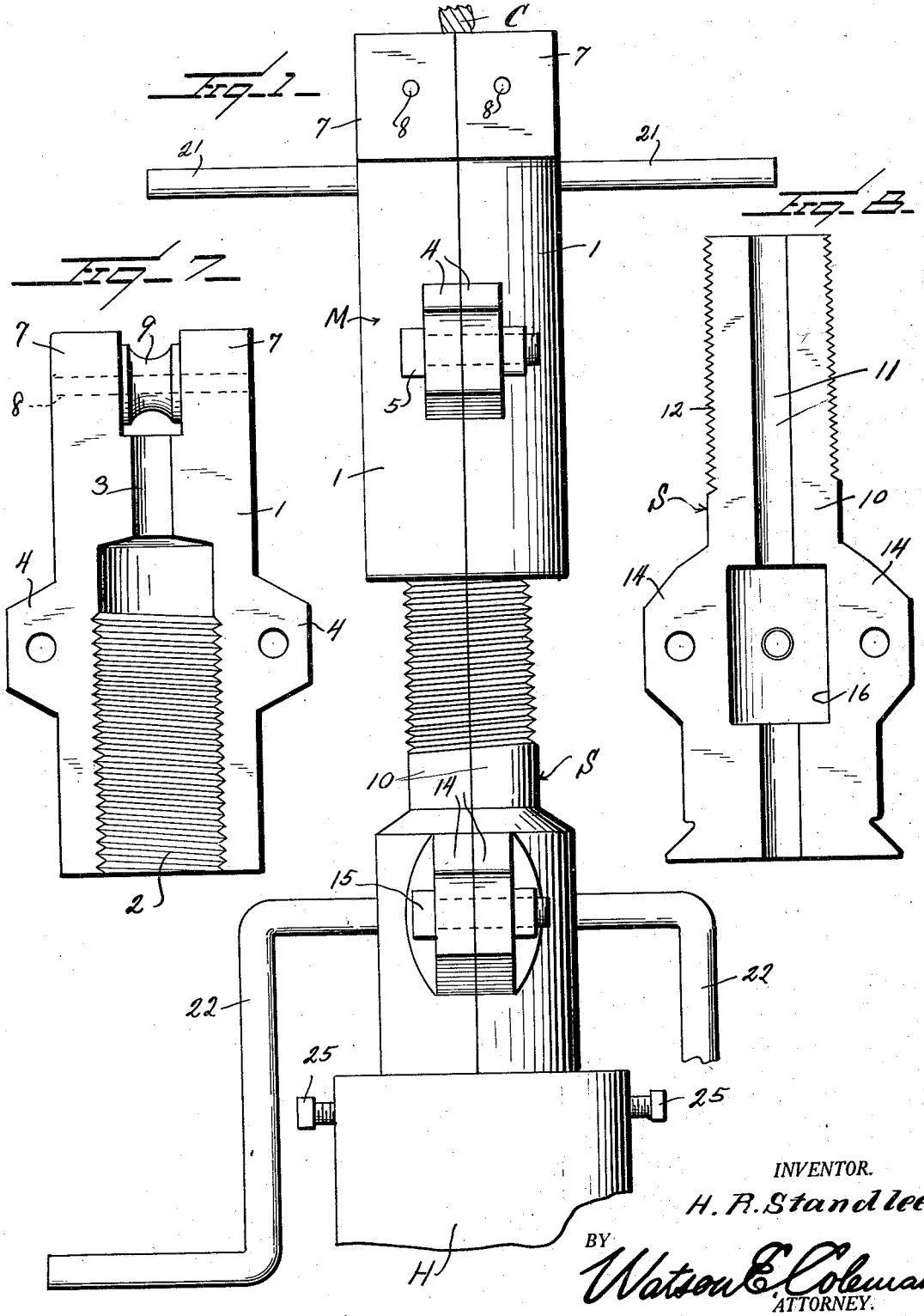


Fig. 1

Fig. 2

Fig. 3

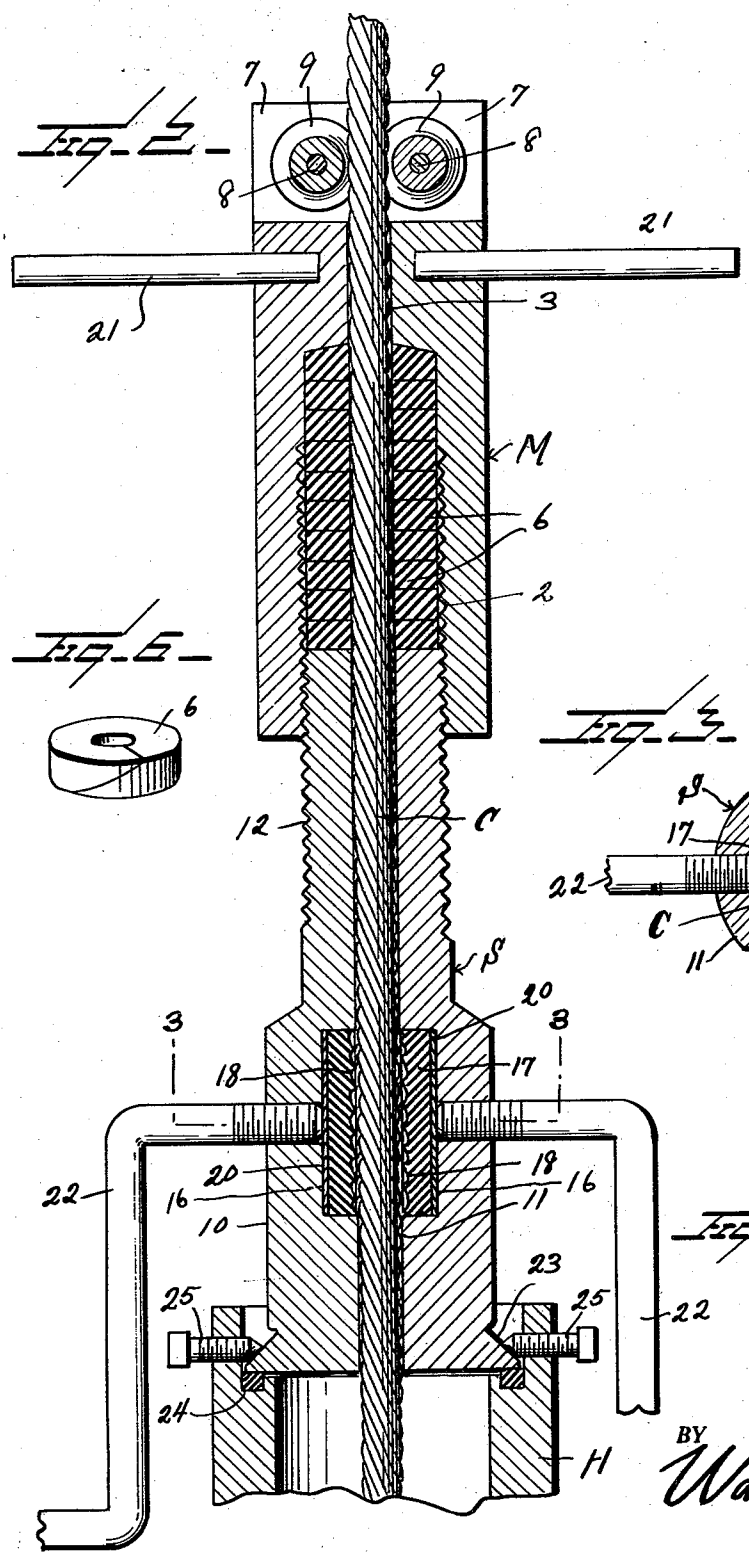
INVENTOR.
H. R. Standlee
BY
Watson E. Coleman
ATTORNEY.

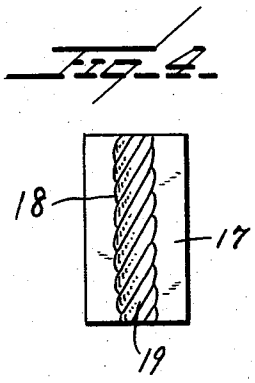
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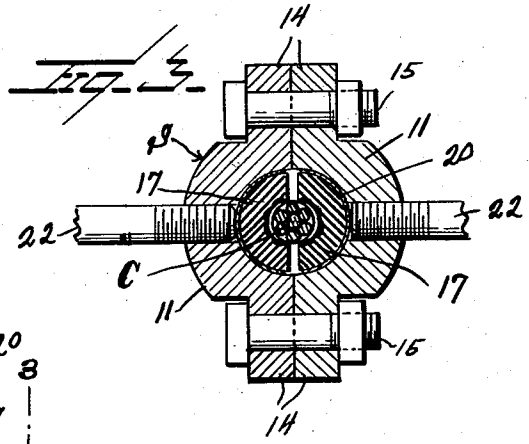
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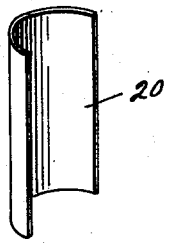
OIL SAVER

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INVENTOR.
H. R. Standlee
BY
Watson E. Coleman
ATTORNEY.

Patented June 17, 1924. 1,498,522

UNITED STATES PATENT OFFICE.

HARVEY R. STANDLEE, OF TULSA, OKLAHOMA.

OIL SAVER.

Application filed September 1, 1923. Serial No. 660,546.

To all whom it may concern:

Be it known that I, HARVEY R. STANDLEE, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Oil Savers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in oil savers and has relation more particularly to a device of this general character especially designed and adapted for use in connection with a cable or other reciprocatory member employed in the building of an oil well and it is an object of the invention to provide a device of this general character having novel and improved means whereby the same may be repacked without the necessity of removing the same from the cable or other reciprocatory element with which it is employed.

Furthermore it is an object of the invention to provide a device of this general character having associated therewith means operating independently of the saver proper for sealing against outward flow of oil along a cable or other associated reciprocatory elements and more particularly in the event of leakage occurring in the main saver.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved oil saver whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is an elevational view illustrating a gas saver constructed in accordance with an embodiment of my invention and in applied position;

Figure 2 is a transverse sectional view taken through the device as illustrated in Figure 1, with certain of the parts in elevation;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is an elevational view of one of the packing elements as herein disclosed;

Figure 5 is a view in perspective of the follower associated with the packing element as illustrated in Figure 4;

Figure 6 is a view in perspective of one of the packing elements employed in connection with the main saver;

Figure 7 is a view in elevation of one of the sections of the main saver as herein comprised; and

Figure 8 is a view in elevation of one of the sections comprised in the supplemental or auxiliary saver.

As disclosed in the accompanying drawings, M denotes a main element of my improved device and which comprises two elongated duplicate sections 1, each of which as herein disclosed being substantially semi-cylindrical in form with the inner face at one end portion provided with a relatively large groove or channel 2 and with the opposite end portion provided with a second groove or channel 3 of a width materially less than the width of the groove or channel 2. When the sections 1 are in assembled relation the grooves or channels 2 provide a stepped bore for the element M as is particularly illustrated in Figure 2 of the accompanying drawings.

Each of the sections 1 adjacent its inner, or flat face is provided with the oppositely disposed lugs or wings 4, with the wings or lugs of one section overlying such wings of the second section when the same are in assembled relation so that the locking bolts 5 may be disposed therethrough to maintain such sections assembled.

A plurality of packing rings 6 are adapted to be inserted within the inner portion of the bore as provided by the registering grooves 2, each of said rings being of a split type as is particularly illustrated in Figure 6.

The major portion of the grooves or channels 2 are threaded so that in the assembled element M suitable means may be employed in connection with the packing rings 6 to effect the requisite compression thereof so that they will have proper coaction with the cable C or kindred reciprocatory member with which the device is employed.

In applying the element M to the cable C or the like, the sections 1 are in separated relation so that the same may be properly engaged with the cable C or the like as illustrated in Figures 1 and 2.

The outer end of each of the sections 1 is

provided with a pair of outstanding spaced arms 7 which rotatably support through the medium of the pin 8 a pulley or roller 9. This pulley or roller 9 provides means to prevent undue friction or wear upon the cable C or the like during the reciprocation thereof, as it is well known that the portion of the cable or the like above the casing head H has a tendency to swing.

Associated with the main element M is a supplemental or auxiliary oil or gas saving element S also comprising two substantially duplicate sections 10, the inner or opposed faces of each having extending lengthwise thereof the grooves or channels 11 which, when the sections 10 are assembled provide a bore through which the cable C or the like is freely disposed. The periphery of the sections 10 at one end portion thereof are semi-cylindrical in form and provided with the threads 12 so that when the sections 10 are assembled, said end portion of the element S may be engaged within the adjacent or lower end portion of the element M and thereby provide the medium to effect the desired or requisite compression of the packing rings 6.

The sections 10 are provided with the oppositely directed wings or lugs 14 with which are associated the holding bolts 15 whereby the sections 10 are maintained in desired assembled relation yet can be readily separated to permit the application or removal of the element S with respect to the cable C or the like.

The grooves 11 inwardly of the threaded portions 12 are enlarged as at 16, both as to width and depth whereby a pocket or chamber is provided to receive the packing element 17, said element being of such dimensions as to fit substantially snug within a pocket 16. The outer face of each of the packing elements 17 is provided therealong with a groove 18 to provide a portion of the cable C or the like, said groove 18 being provided with the diagonal flutes 19 to compensate for the twists in a cable whereby the efficiency of the packing 17 when in contact with a cable C is materially facilitated. Interposed between each of the packings 17 and the base of the pocket 16 is a follower 20 preferably of metal and of such cross sectional configuration to receive the packing 17.

Normally, the packings 17 are free from the cable C or the like but in the event of leakage through the main packing element M the packings 17 are adapted to be engaged with the cable C or the like to provide an effective seal to prevent flow of the oil outwardly along the cable C or the like through the element S. With the packings 17 in working engagement with the cable C or the like, the main saver M may be readily and quickly repacked by unthreading the same from the auxiliary or supplemental element S and then moving the separated element M upwardly or in a direction away from the element S a distance sufficient to remove the worn ring 6 and to replace the same. After the replacement of the ring 6 the element M is then again engaged with the element S and upon relative rotation of said elements M and S the new ring 6 will be properly compressed in accordance with the requirements of practice. To facilitate this manipulation of the element M, the upper or outer portion thereof is provided with the outstanding and oppositely disposed arms or rods 21 which provide hand grasps.

Each of the followers 20 has associated therewith a speed screw 22 threaded through the wall of the associated section 10 of the element S so that upon requisite rotation of the screw 22 the coacting follower 20 and the associated packing 17 may be caused to have requisite sealing contact or engagement with the cable C or the like.

The lower portion of the assembled sections 10 of the auxiliary or supplemental element S are also substantially cylindrical in form and are provided at the outer extremity of such portion with the inwardly beveled flange 23 which is adapted to seat directly upon the conventional packing ring 24 now generally employed in connection with casing heads H. Threaded through the wall of the head H above the packing ring 24 are the holding screws 25 which engage the beveled face of the flange 23 and thereby assure the proper mounting of my improved device in its entirety upon the casing head H and in a manner whereby leakage is prevented at the marginal portion of the base of the element S.

While I have hereinbefore particularly referred to my improved device as operating to prevent the leakage of oil, it is also to be understood that it can be employed with the same convenience and advantage in connection with flowing gas.

From the foregoing description it is thought to be obvious that an oil saver constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. A gas saver comprising two separable elements adapted to surround a reciprocating member, means for detachably connect-

ing said elements, packing carried by one of the elements for normally engaging the reciprocating member, packing carried by the second element and normally free of the reciprocating member, means independent of said first element for adjusting said last named packing into working engagement with the reciprocating member and means forming an integral part of said second element adapted for compressing the packing carried by the first element.

2. A gas saver comprising two separable elements adapted to surround a reciprocating member, means for detachably connecting said elements, packing carried by one of the elements for normally engaging the reciprocating member, packing carried by the second element and normally free of the reciprocating member, and means independent of said first element for adjusting said last named packing into working engagement with the reciprocating member, said second element adapted to compress the packing carried by the first element.

3. A gas saver comprising two separate elements adapted to surround a reciprocating member, means for detachably connecting said elements, packing carried by one of the elements for normally engaging the reciprocating member, means forming an integral part of one of said elements for compressing said packing, packing carried by the second element and normally free of the reciprocating member, and means independent of said first element for adjusting said last named packing into working engagement with the reciprocating member, said second element being provided with means to engage and close a casing head.

4. A device of the class described comprising two members each adapted to surround a reciprocating member, one of said members being threaded within the other, packing carried by one of the members for normal engagement with the reciprocating member, the threaded engagement between the members operating to compress said packing, packing carried by the second member normally free of the reciprocating member, and means independent of said first element for adjusting said second packing into working contact with the reciprocating member.

In testimony whereof I hereunto affix my signature.

HARVEY R. STANDLEE.