June 10, 1930. W. G. BRADFORD 1,762,211

OIL SAVER AND PACKING HEAD

Filed Dec. 19, 1928

Fig. 1.

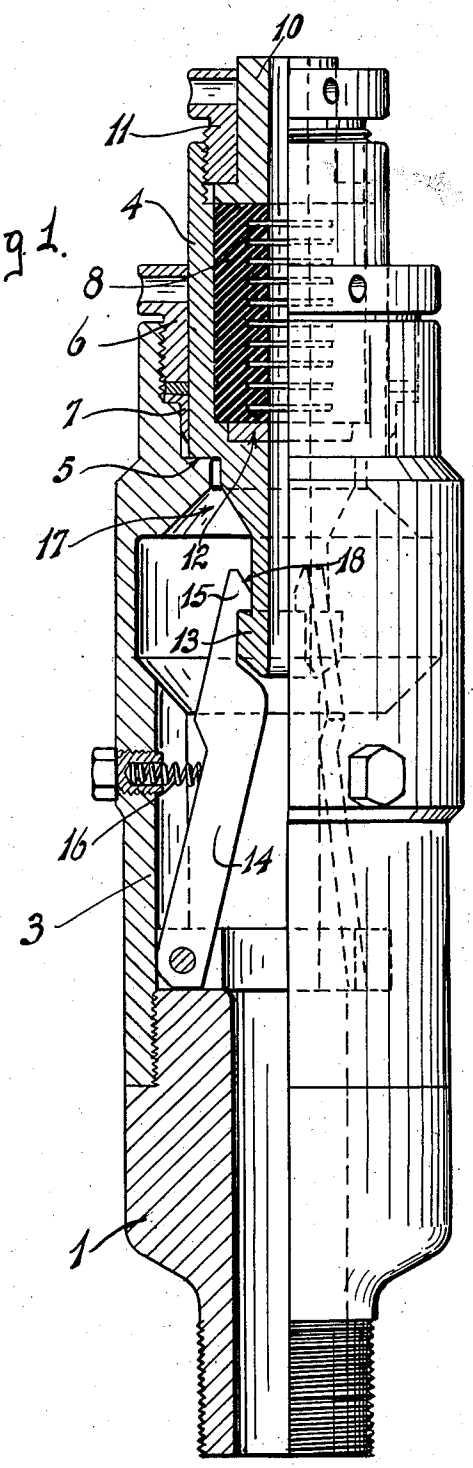


Fig. 3.

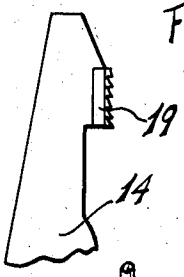
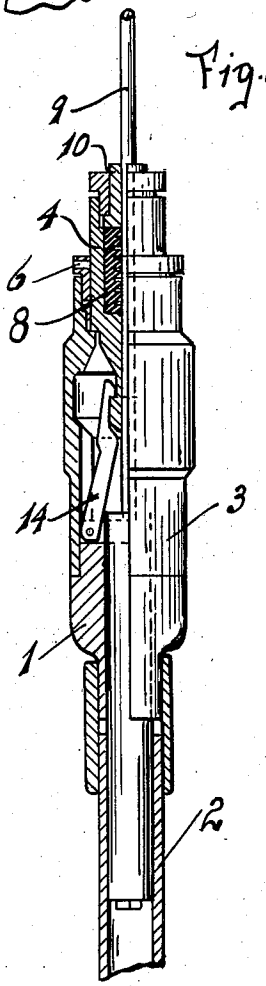


Fig. 2.



INVENTOR
WILLIAM G. BRADFORD
by H. A. Buchman
ATTORNEY.

Patented June 10, 1930 1,762,211

UNITED STATES PATENT OFFICE

WILLIAM G. BRADFORD, OF LONG BEACH, CALIFORNIA, ASSIGNOR OF ONE-FOURTH TO HAROLD P. SHOEBRIDGE AND ONE-FOURTH TO JERRY L. FOUTZ

OIL SAVER AND PACKING HEAD

Application filed December 19, 1928. Serial No. 327,043.

This invention relates to an oil saver and packing head, by means of which the oil which collects on the outside of the cable or tubing is stripped off and returned into the tubing, thereby preventing it from discharging on to the floor of the derrick where it is lost.

An object of my invention is to provide an oil saver and packing head the stripper portion of which is automatically released by the tools, swabs or the like, as they move upwardly out of the tubing.

A further object is to provide an oil saver of the character stated, the stripper of which can be readily reinserted in position after it is carried out of the head by the swab or tools.

Still another object is to provide an oil saver and packing head which also acts to effectively pack off the tubing or cable, thereby preventing leakage around same.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description, and the appended claims.

In the drawing:

Figure 1 is a view partly in section and partly in elevation, the section being longitudinal of the head.

Figure 2 is a view similar to Figure 1, showing the tools or swab about to be withdrawn from the head.

Figure 3 is an enlarged fragmentary view of one of the latches.

Referring more particularly to the drawing, the numeral 1 indicates a nipple which screws into the top of the tubing 2. A sleeve 3 screws on to the top of the nipple 1 and receives a stripper head 4 which seats in the sleeve 3 adjacent the top thereof on a seat 5. A gland 6 screws into the top of sleeve 3 around the head 4 and bears against a fibrous cup 7, which cup effectively seals the space around the head 4, and prevents leakage.

A rubber packing 8 is positioned in the stripper head 4 and is adapted to closely encircle the tubing, cable, or the like, 9 to remove any oil or other liquid which might adhere to the outside thereof, and also prevents escape of the liquid which is pulled upwardly by the swab, or tools.

A guide bushing 10 seats on top of the packing 8 and a nut 11 screws into the top of the head around the bushing, thus holding the bushing and packing in position. The bushing 10 is preferably made of a soft metal which will not wear the tubing or the cable. A soft metal washer 12 is provided at the lower end of packing 8 to relieve wear on the lower end of said packing.

A collar 13 is provided on the lower end of the head 4, the purpose of which will be further described. It will, of course, be evident that the bore through the head 4, packing 8 and bushing 10 is of sufficient diameter to pass the cable or tubing, but is not of sufficient diameter to pass the tools or swab.

A plurality of latches 14 are hingedly mounted on the nipple 1 or sleeve 3, in a ring or the like, said latches extending upwardly from their pivotal point and are each provided with a hook 15 which engages the collar 13 to securely hold the head 4 against displacement. A spring 16 bears against each of the latches 14 to yieldably urge the same inwardly.

During the normal operation while the tools are in the tubing, the stripper head 4 is held against displacement. During the removal of the tools or swab from the well, the stripper head serves to remove the oil or liquid from around the cable. When the tools or swab reach the surface, they engage each of the latches 14 as shown in Figure 2 thus holding them outwardly against the tension of the spring 16, thereby releasing the stripper head 4 and as the upward movement of the tools is continued, the head will lift out of the sleeve 3, thus permitting the tools or swab to be removed from the well.

The tools or the like pass out of the sleeve 3 through the enlarged opening 17 at the seat 5. When the tools or the like are reinserted in the well, the latches 14 are again swung outwardly by reason of the tools engaging the taper 18 on the top thereof, and then as the stripper head 4 is inserted, the latches will be urged inwardly by the spring

16 to engage the collar 13 and hold said head against displacement.

If desired, a slip 19 may be provided in each of the latches 14 to engage the head 4 or the tubing, said slips acting as a further safe-guard against accidental displacement of the head.

Having described my invention, I claim:

1. An oil saver and packing head adapted to be secured to well tubing, comprising a nipple, a sleeve secured to the nipple, a stripper head seated in the sleeve, packing means in the sleeve around the stripper head, a plurality of latches engaging said stripper head, said latches being adapted to be engaged by the tools during their removal, thus releasing the stripper head, said latches being pivoted adjacent the bottom thereof, and rising above said pivots, a collar at the lower end of the stripper head, and hooks on the latches at the top thereof adapted to engage the collar.

2. An oil saver and packing head adapted to be secured to well tubing comprising a nipple, a sleeve secured to the nipple, a stripper head seated in the sleeve, packing in the sleeve around the head, a gland screwed into the top of the sleeve around the head and bearing against the packing, a plurality of latches engaging said stripper head, said latches being adapted to be engaged by the tools during their removal, thus releasing the stripper head, said latches being pivoted adjacent the bottom thereof and rising above said pivots, a collar in the lower end of the stripper head and hooks on the latches at the top thereof adapted to engage the collar.

3. An oil saver and packing head adapted to be secured to well tubing comprising a nipple, a sleeve secured to the nipple, a stripper head seated in the sleeve, packing in the sleeve around the head, a gland screwed into the top of the sleeve around the head and bearing against the packing, a plurality of latches engaging said stripper head, said latches being adapted to be engaged by the tools during their removal, thus releasing the stripper head, said latches being pivoted adjacent the bottom thereof and rising above said pivots, a collar in the lower end of the stripper head and hooks on the latches at the top thereof adapted to engage the collar, a rubber packing in the stripper head, a guide bushing seated on the top of the packing, and a nut screwed into the top of the stripper head around the bushing and engaging said bushing, thus holding the bushing and packing in position.

4. An oil saver and packing head adapted to be secured to well tubing comprising a nipple, a sleeve secured to the nipple, a stripper head seated in the sleeve, packing means in the sleeve around the stripper head, a plurality of latches engaging said stripper head, said latches being adapted to be engaged by the tools during their removal, thus releasing the stripper head, said latches being pivoted adjacent the bottom thereof, and rising above said pivots, a collar at the lower end of the stripper head and hooks on the latches at the top thereof adapted to engage the collar, plugs screwed through the wall of the sleeve and springs seated in the plugs and bearing against the latches thus urging the latches inwardly.

5. An oil saver and packing head adapted to be secured to well tubing comprising a nipple, a sleeve secured to the nipple, a stripper head seated in the sleeve, packing in the sleeve around the head, a gland screwed into the top of the sleeve around the head and bearing against the packing, a plurality of latches engaging said stripper head, said latches being adapted to be engaged by the tools during their removal, thus releasing the stripper head, said latches being pivoted adjacent the bottom thereof and rising above said pivots, a collar in the lower end of the stripper head and hooks on the latches at the top thereof adapted to engage the collar, a rubber packing in the stripper head, a guide bushing seated on the top of the packing, and a nut screwed into the top of the stripper head around the bushing and engaging said bushing, thus holding the bushing and packing in position, plugs screwed into the sleeve through the wall thereof, and a spring seated in each plug and bearing against one of the latches, thus urging the latches inwardly.

In testimony whereof, I affix my signature.

WILLIAM G. BRADFORD.