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C. W. FISHER
BOTTOM HOLE PACKER
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1,749,033

FIG. 1.

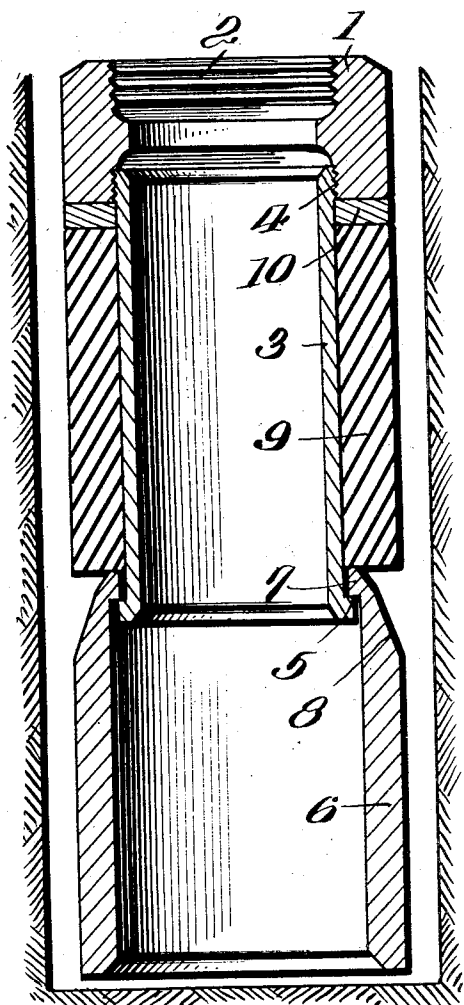


FIG. 2.

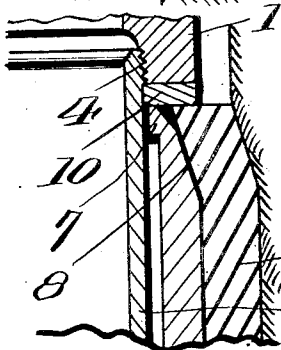
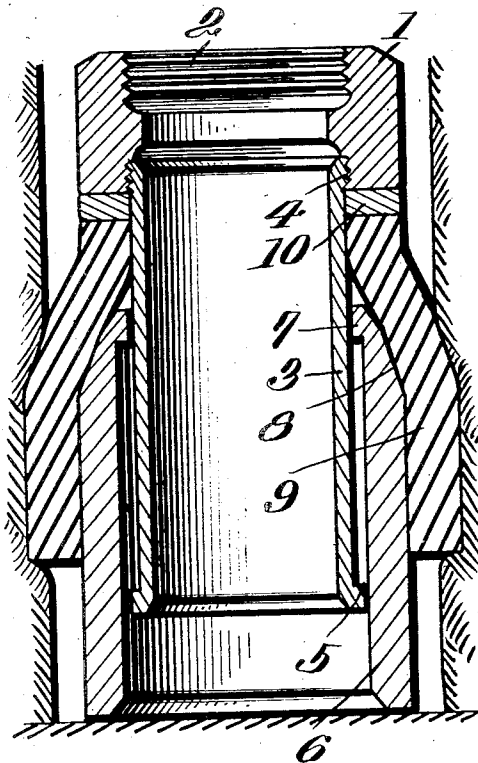


FIG. 3.

Inventor
C. W. FISHER.

By *[Signature]* Attorney

UNITED STATES PATENT OFFICE

CHARLEY W. FISHER, OF COFFEYVILLE, KANSAS, ASSIGNOR TO ROBINSON PACKER COMPANY, OF TULSA, OKLAHOMA, A CORPORATION OF OKLAHOMA

BOTTOM HOLE PACKER

Application filed July 2, 1926. Serial No. 120,133.

This invention relates to certain new and useful improvements in bottom hole packers for oil wells and the like, the object being to provide a bottom hole packer formed of a pair of telescoping sections having means for expanding a ring of rubber so as to engage the wall of the well and pack the same, means being also provided for packing the space between the sections in case the hole should be large and the sections telescope the full space.

Another object of my invention is to provide a packer which is exceedingly simple and cheap in construction, the same being composed of a very few parts which are so arranged that they are not likely to get out of order.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings:

Figure 1 is a vertical section through my improved construction of packer;

Figure 2 is a vertical section showing the rubber ring expanded to pack the well; and

Figure 3 is a detail vertical section showing the telescoping sections telescoped to the full extent so as to bring the shell into engagement with the lead ring so as to pack the space between the shell and the body.

In the drawing 1 indicates the top of the packer which is preferably cylindrical having an internal threaded portion 2 to which is adapted to be screwed the casing of the well. The lower end of the top 1 is internally threaded in which is screwed the upper threaded end of a tubular body 3 as shown at 4 which is provided at its lower end with an annular flange 5 working within a tubular shell 6 which is provided with an internal flange 7 so as to limit the movement of the body 3 within the shell 6.

The upper end of the shell 6 is annularly reduced to form a tapering portion 8 which is adapted to ride under a rubber sleeve 9 forming a packer which forces the sleeve outwardly against the side of the well as clearly shown in Figure 2.

Disposed on the body 1 above the rubber

sleeve 9 is a lead ring 10 which is adapted to be engaged by the upper edge of the shell 6 when the two sections are telescoped to such an extent as to bring the upper edge in engagement with the ring whereby the space between the shell and body is sealed in case the hole should be large at that point and allow the telescoping sections to telescope to the full extent.

In Figure 1 I have shown the bottom hole packer in position to be lowered into a well so that the body can be forced downwardly into the shell in order to expand the rubber packing sleeve 9 into the position shown in Figure 2 against the wall of the well.

In case the body is forced downwardly beyond the position shown in Figure 2, the upper edge of the shell will be brought into engagement with the lead ring 10 so as to seal the space between the shell and body.

By providing a packer with a packing sleeve and a malleable ring 10 which is engaged by the movable member, the malleable ring 10 is expanded so as to completely seal the space between the body and shell when the packer is moved into position shown in Figure 3.

From the foregoing description it will be seen that I have provided a bottom hole packer which is composed of a very few parts so arranged that the rubber packer can be readily expanded to pack the hole.

What I claim is:—

1. A bottom hole packer comprising a top member, an intermediate body portion and a bottom shell, said body portion and shell being arranged to telescope one within the other, a rubber packing sleeve arranged around the intermediate body portion and adapted to be forced outwardly by the bottom shell portion and a malleable member arranged between the bottom shell and the top member and adapted to be expanded against the intermediate body portion by the telescoping of said members.

2. A bottom hole packer comprising a pair of telescoping sections, one of the sections being provided with a packing sleeve and a packing ring, the other section being provided with a tapering portion to expand the

packing sleeve and adapted to engage the packing ring so as to seal the space between the telescoping sections.

3. A bottom hole packer composed of a top member adapted to be connected to the well casing, an intermediate body portion having an annular external flange at its lower end, a bottom shell portion to receive said intermediate body portion and having an internal annular flange to limit the movement of said body member within said shell, said bottom member being provided with an annular tapering upper end, a rubber packing sleeve surrounding the body portion and adapted to be expanded by the tapering portion of the bottom portion and a lead ring surrounding said body portion above the packing ring and adapted to be engaged by the upper edge of the bottom shell portion and forced into engagement with the top member for sealing the space between the body portion and the shell portion.

4. A bottom hole packer comprising a pair of telescoping members, one of said members being provided with an exterior shoulder, a packing sleeve surrounding said last mentioned member adapted to be expanded by the other member when said members are in telescoped position and a malleable member arranged against said shoulder adapted to be expanded by the telescoping of said members.

5. A bottom hole packer comprising a pair of telescoping members, one of said members being provided with an annular shoulder, a flexible packing sleeve and a malleable ring arranged around one of said members, said ring being disposed adjacent said shoulder, said sleeve and ring being adapted to be expanded by the telescoping of said members.

6. A packer of the kind described comprising a pair of telescoping members, one of said members being provided with a flexible packing sleeve, the other member being provided with a tapering portion to expand the packing sleeve, said members being adapted to engage one another for limiting the longitudinal movement of said members in respect to each other and a malleable member arranged to be engaged by the end of the tapering portion of said member for expanding said malleable member.

In testimony whereof, I hereunto affix my signature.

CHARLEY W. FISHER.