C. A. WAITZ.

CUP PACKER.

APPLICATION FILED JUNE 9, 1910.

997,721. Patented July 11, 1911.

Fig. 1.

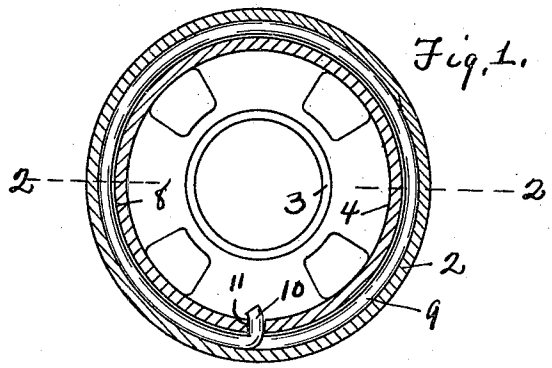
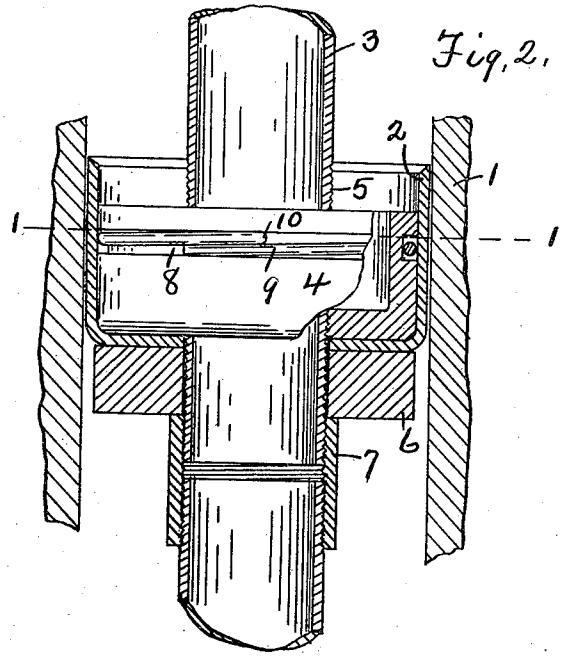


Fig. 2.



Witnesses

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CHARLES A. WAITZ, OF ROUSEVILLE, PENNSYLVANIA.

CUP-PACKER.

997,721. Specification of Letters Patent. Patented July 11, 1911.

Application filed June 9, 1910. Serial No. 565,934.

To all whom it may concern:

Be it known that I, CHARLES A. WAITZ, a citizen of the United States, and residing at Rouseville, in the county of Venango and State of Pennsylvania, have invented new and useful Improvements in Cup-Packers, of which the following is a specification.

This invention relates to cup packers, and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 is a section on the line 1—1 in Fig. 2; Fig. 2 a section on the line 2—2 in Fig. 1.

1 marks the wall of the well; 2 the packing cup; and 3 the tubing. These are of ordinary construction. The tubing has the thread 5 on which is screwed the cup block 4. A follower or washer 6 is slipped onto the tubing below the cup, and the cup is clamped between the washer 6 and block 4 by the coupling 7 which is screwed onto the end of the tubing. This method of securing the cup is the common method.

The cup block 4 has the annular groove 8 in which is arranged an expanding spring 9. This spring is normally of greater diameter than the cup so that it is placed under tension as the cup is put in place on the block. The strength of the spring, however, is not sufficient to expand the cup while dry. It, therefore, does not interfere with the ready placing of the cup in the well. As soon as the cup is moistened however, it loses its rigidity sufficiently to expand under the pressure of the spring, so as to form a complete closure.

When the tubing is drawn, the cup is usually stripped off, and in order to prevent the disengagement of the spring from the block 4, and its consequent loss in the well, I form the hook 10 in the end of the spring, which I place in the perforation 11 in the wall of the cup-block 4. This prevents the disengagement of the spring from the block, and insures its removal from the well with the tubing.

What I claim as new is:

1. A cup packing for wells comprising a cup formed of material softening under the influence of liquid; and a spring for expanding the cup when softened, the spring being of insufficient strength to expand the cup when dry.

2. A cup packing for wells comprising a cup softening under the influence of liquid; a cup block within the cup having a spring socket arranged therein; a spring arranged in the socket in the block for expanding the cup when softened, the spring being of insufficient strength to expand the cup when dry; and means for securing the spring on the block independent of the cup.

3. In a cup packing, the combination of a cup softening under the influence of liquid; a cup block within the cup having an annular groove therein; a spring arranged in the annular groove for expanding the cup when softened the spring being of insufficient strength to expand the cup when dry; and a hook on the spring for engaging the wall of the block.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES A. WAITZ.

Witnesses:
H. F. PARKER,
WM. M. PARKER.