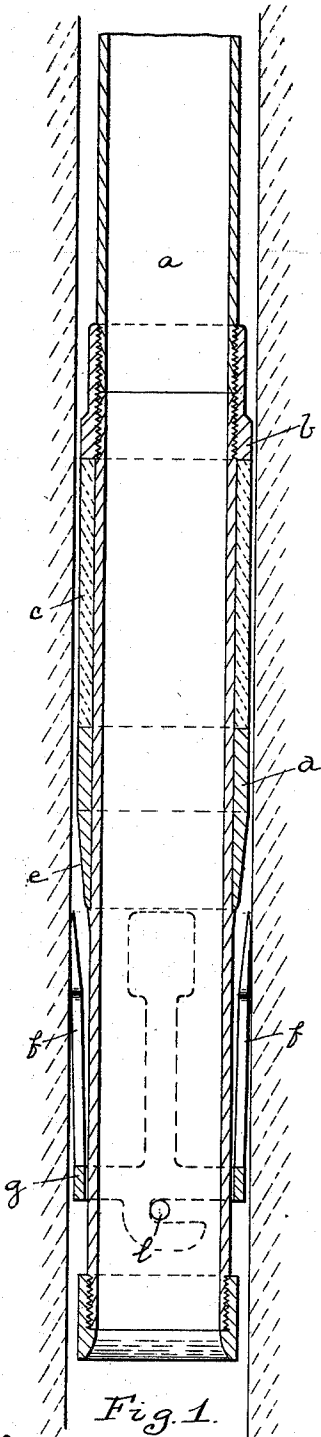


(No Model.)

G. PALM.
PACKER FOR ARTESIAN WELLS.

No. 509,394.

Patented Nov. 28, 1893.



Witnesses:
Wm. J. Martin
D. L. Dorsey.

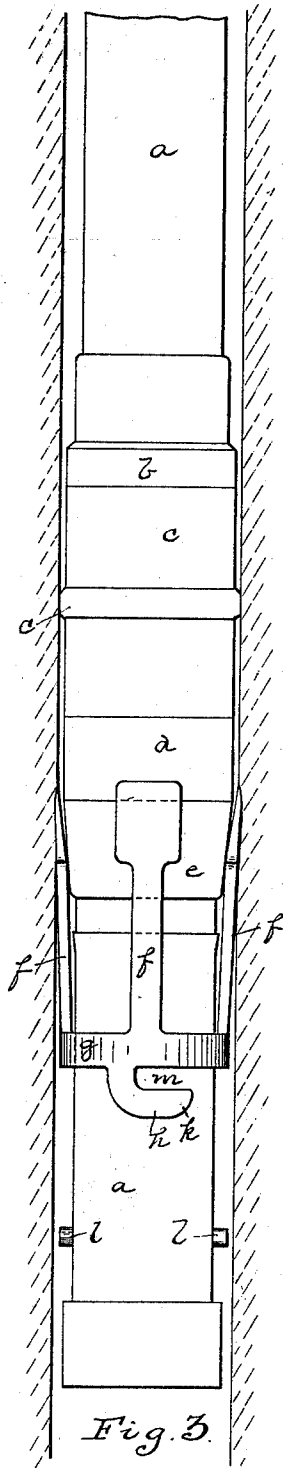


Fig. 3.

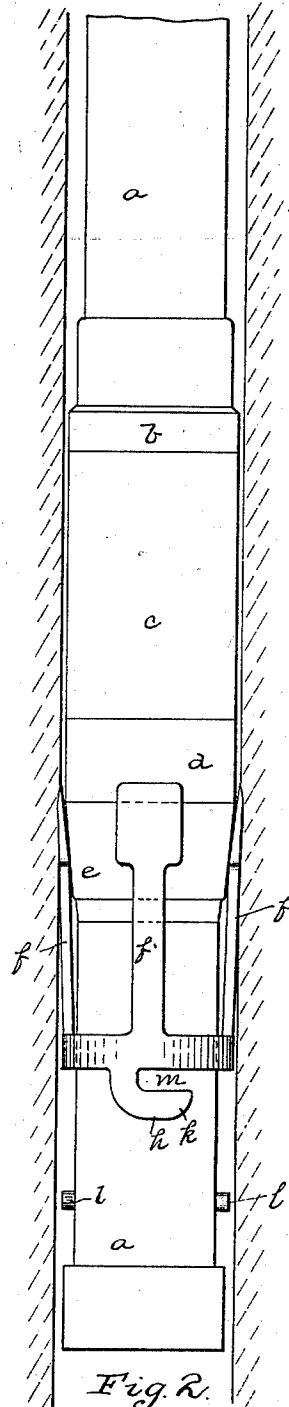


Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE PALM, OF BUTLER, PENNSYLVANIA.

PACKER FOR ARTESIAN WELLS.

SPECIFICATION forming part of Letters Patent No. 509,394, dated November 28, 1893.

Application filed December 17, 1892. Serial No. 455,472. (No model.)

To all whom it may concern:

Be it known that I, GEORGE PALM, a resident of Butler, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Packers for Artesian Wells; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to oil well packing devices, and that class of oil well packers in which the expansible arms are adapted to engage with the sides of the hole and to afford resistance to the packer so as to compress the annulus of the rubber or like packing material and so pack the well at that point.

The invention relates especially to the means for supporting the expansible arms and freeing the same at the point where the well is to be packed, and it consists essentially in providing the expansible arms with a horizontally extending hook which engages with a pin or lug upon the outer face of the casing and supports the expansible arms around the same, and which may be disengaged by turning the casing so that when the tubing drops through the expansible arms they will be wedged or forced against the sides of the well and hold the packer so that it is compressed by the weight of the casing.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a longitudinal section of an oil well packer embodying my invention. Figs. 2 and 3 are outside views of the same, showing the position of the parts when the hook is disengaged from the pin and when the well is packed respectively.

Like letters indicate like parts in each of the views.

I will not describe more than the general packer with which my invention is illustrated, as such packer is, generally speaking, old, the casing *a* carrying an enlarged portion *b* which presses upon the annular rubber packer *c*, such packer being supported below the same by the sleeve *d* which carries at its lower end the annular wedge *e*. The expansible or gripping arms *f* extend up from the ring *g* with

which they are formed, the arms extending upwardly so that when held in proper place with relation to the packer, they may be forced down into the well, scraping or contacting with the sides thereof as the packer is forced into the well, but not biting into the sides to any extent, because the arms and their supporting ring *g* are carried by the casing. At the lower face of the ring *g* is the hook *h* which has the horizontally extending portion *k* which fits close to the body of the casing *a*, and the casing *a* has the lug or pin *l* formed thereon with which the hook *h* engages, the pin *l* fitting into the longitudinal slot or seat *m*, so that the expansible or gripping arms are carried by the tubing. When so employed, as the packer is forced down into the well, it carries with it the gripping arms *f* through the connection of the hook *h* with the pin *l* and it may in this way be forced down to the position where the well is to be packed, this being made possible by the fact that the arms *f* extend upwardly, though they do contact with the walls and cause considerable friction in their descent. When the point at which the packer is to be secured is reached, all that is necessary is to turn the casing *a* a short distance so turning the pin *l* out of the hook *h* on the ring *g* carrying the expansible arms, and as the casing and the cage carrying the arms are thus disengaged, the casing will descend within the cage until the wedge portion *e* of the sleeve *d* fits within the expansible arms *f* and forces them tightly against the walls of the well, the arms being thus caused to grip the wall of the well first by their own expansive or resilient action, and then by the entrance of the wedge within the arms, and the sleeve *d* being then supported so that the collar or enlargement *b* carried by the casing will press upon the packer *c* and force it into close contact with the walls of the well, so as to pack the joint with the well.

In packers of this general class heretofore employed, the difficulty has been to provide an easy and positive disengagement of the expansible arms from the casing, and yet a positive means for carrying the expansible arms when the packer is being lowered to place. By this simple device above described,

however, these parts are provided, and a simple and efficient packing device formed.

What I claim as my invention, and desire to secure by Letters Patent, is—

- 5 In oil well packers, the combination with the casing provided with a pin, of a cage formed of a ring carrying expansible arms extending up therefrom and fitting around the casing, and having at the base of the ring a
10 horizontally extending hook adapted to en-

gage with the pin on the casing and hold the parts together, substantially as and for the purposes set forth.

In testimony whereof I, the said GEORGE PALM, have hereunto set my hand.

GEORGE PALM.

Witnesses:

WM. J. MARTIN,
J. N. COOKE.