(No Model.)

L. STEWART.

Oil Well Packer.

No. 235,972. Patented Dec. 28, 1880.

Fig. 1.

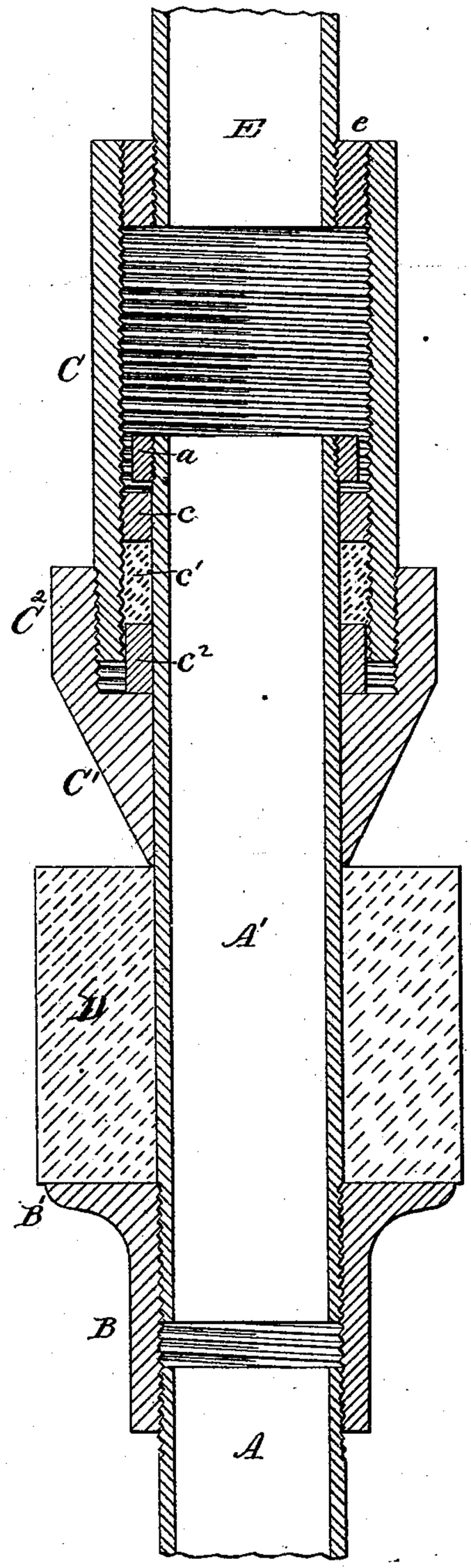
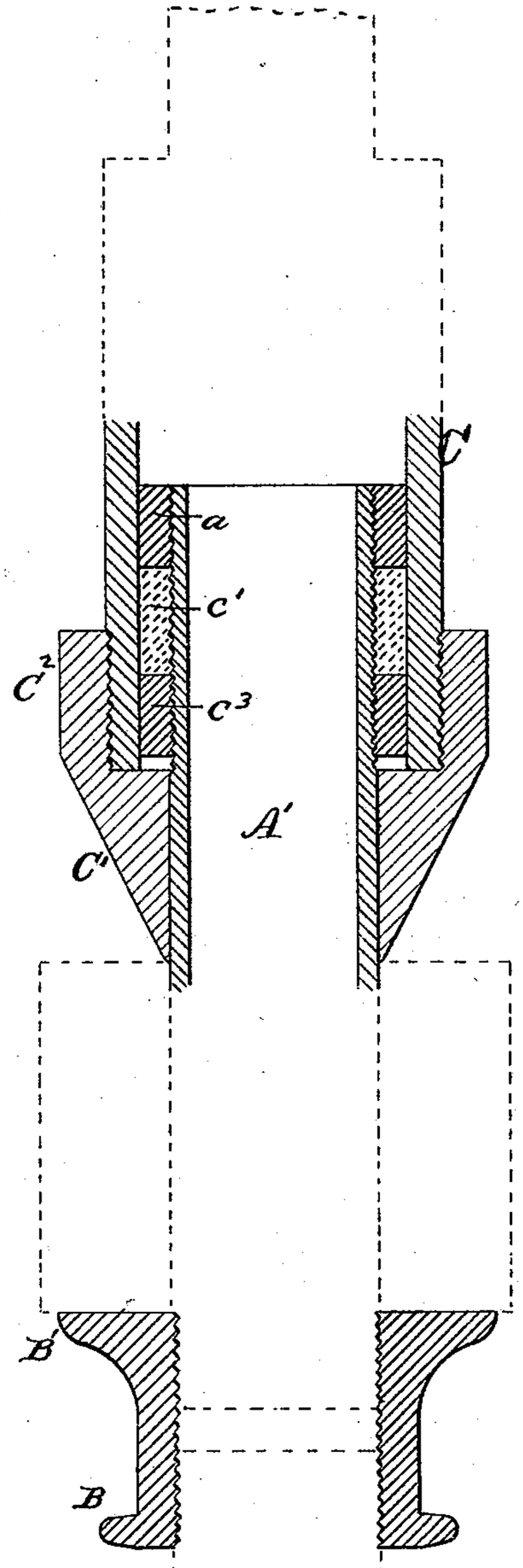


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

LYMAN STEWART, OF TITUSVILLE, PENNSYLVANIA.

OIL-WELL PACKER.

SPECIFICATION forming part of Letters Patent No. 235,972, dated December 28, 1880.

Application filed October 28, 1880. (No model.)

To all whom it may concern:

Be it known that I, LYMAN STEWART, a citizen of the United States, residing at Titusville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Packers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to a new construction of oil-well packers, adapted more especially to be used in connection with tubing through which oil is pumped from the well; and it consists, essentially, in interposing between one of the tubing-sections and the outer cylinder or sleeve of the telescopic joint which unites the upper and lower sections of the tubing a packing material for the purpose of preventing leakage at that point.

Figure 1 is a vertical section of a packer embodying my invention, and Fig. 2 is a similar section of a modification.

Referring to Fig. 1, A A′ represent the lower section of the eduction-tube, which usually extends to the bottom of the well. The part A′ is connected with the part A by means of a coupling, B, which is expanded at its upper end into a flange, B′, these parts A′ B B′ constituting a support for a rubber annulus, D, which is mounted thereon, and is thereby maintained in proper position in the well while being forced against the side of the well by the action of devices which I will now describe.

C′ C^2 is a hollow conical wedge sliding on the upper end of tube-section A′, which projects a short distance above the rubber annulus D. The upper end of this wedge is chambered and screw-threaded to receive a cylinder or sleeve, C, which is connected by means of a collar or reducer, *e*, with the upper section, E, of the eduction-tube, which is continued, by the addition of successive lengths, to the top of the well.

a is a rim or flange screwed upon the end of tube-section A′. *c* is a collar or ring screwed into the cylinder or sleeve C. *c′* is a packing material interposed between cylinder C and the tube-section A′, and c^2 a rim or ring serving as a follower to suitably compress the packing material *c′*. This follower may be screw-threaded externally and screwed into cylinder C, or it may be smooth on its outer surface and forced against the packing material by means of an interior shoulder of the wedge, as indicated in the drawings. The packing *c′* may be fibrous, or composed of rubber, leather, or such other material as may be desired.

From an examination of Fig. 1 it will be seen that as the wedge C′ C^2 is forced into the annulus D by the weight of the upper section, E, of the eduction-tube, the packing material *c′*, which is attached to the cylinder C, and is thereby connected with the tube-section E, and rises and falls with said section, slides in contact with the annulus-support, and thus prevents leakage between said support and the upper tube-section.

As this packer is intended more particularly for use in connection with a pumping or working barrel near the lower end of the eduction-tube, it will be seen that fluid can be pumped out of the well without leakage at that part of the packer which constitutes the telescopic joint.

In Fig. 2 is shown a packer embodying the invention in a modified form. Referring to this figure, it will be seen that the parts are identical in structure with those above described, except that the packing *c′*, instead of being attached to the cylinder C, and rising and falling with the upper section, E, is attached to the annulus-support by means of a ring or flange, *a*, which is screwed to the upper end of the tube-section A′, and a similar ring or flange, c^3, which is also screwed upon the tube-section A′ near its upper end. In this latter construction, when the wedge C′ C^2 is forced into the annulus D the packing material *c′* remains stationary, the inner surface of the cylinder C sliding in contact with the packing material. It will be seen, however, that in both constructions the packing material *c′* is located in the same position relative to the other parts of the packer—that is to say, between the cylinder C of the telescopic joint and the adjacent tube-section—and is pressed against the inner wall of the cylinder and the

outer surface of the tube-section by means of rims or flanges, which are also interposed between said inner surface of the cylinder of the telescopic joint and the adjacent section of tubing.

I am aware of Patent No. 56,234, to O. B. Latham, dated July 10, 1866, and hence do not claim anything shown in said patent; nor do I claim in this patent anything except the invention specifically set forth in the claims, preferring to claim all other patentable features in another application for oil-well packer which I have filed.

What I claim is—

1. In an oil-well packer, the combination of the following elements, viz: a lower section of an eduction-tube, an upper sliding section of eduction-tube, a cylinder adapted to connect the upper and lower sections of the eduction-tube, a support for a rubber annulus, mechanism for forcing the rubber annulus against the wall of the well, two rims or flanges surrounding a section of tubing which projects within the cylinder, and a packing material, *c'*, secured between the rims or flanges within the cylinder, substantially as set forth.

2. In an oil-well packer, the combination of the following elements, namely: a lower section of eduction-tube, an upper sliding section of eduction-tube, a cylinder adapted to connect the upper and lower tube-sections, a support for a rubber annulus, and a packing, *c'*, connected with the upper tube-section by suitable means, so as to rise and fall therewith, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LYMAN STEWART.

Witnesses:
JOHN O'NEILL,
H. H. DOUBLEDAY.