(No Model.)

J. CARRUTHERS.

PACKING COLLAR OR SLEEVE FOR OIL, GAS, OR ARTESIAN WELL CASINGS.

No. 563,135. Patented June 30, 1896.

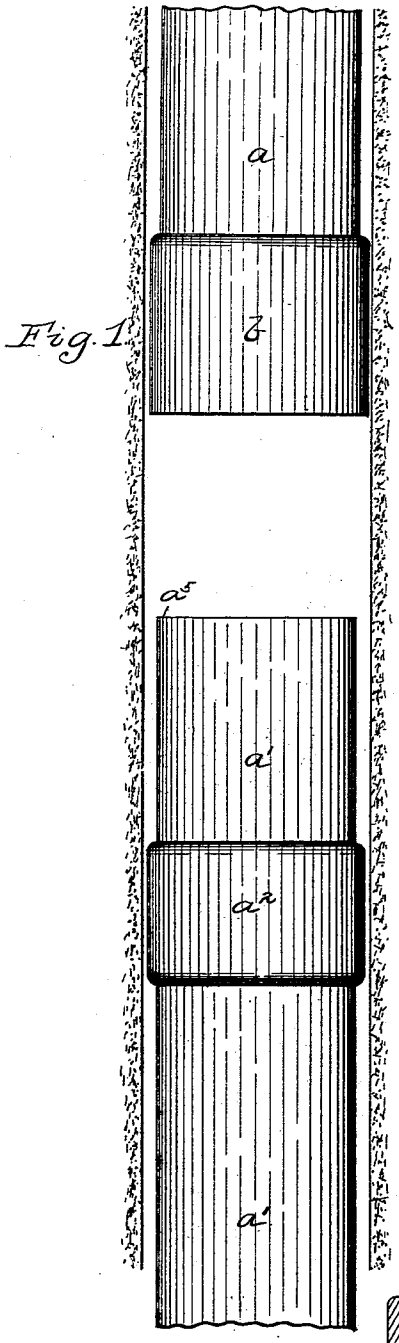

Fig. 1.

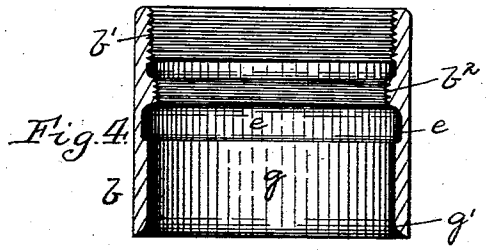

Fig. 4.

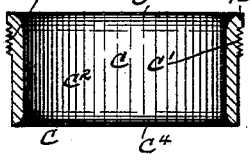

Fig. 5.

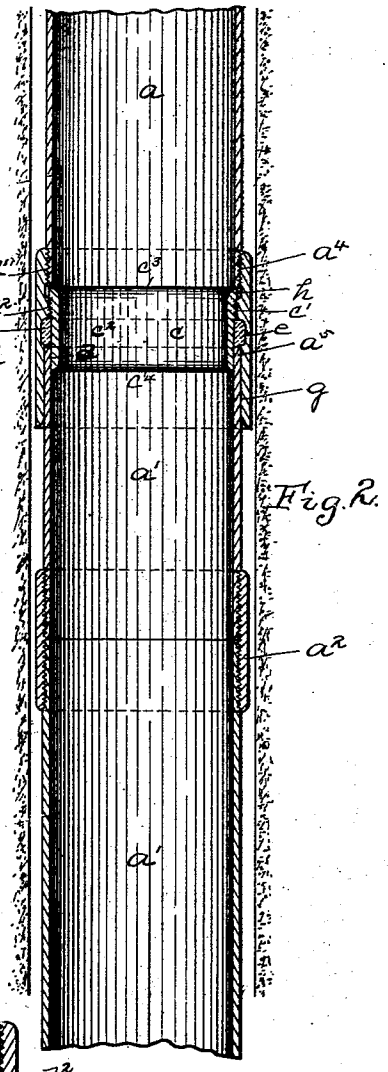

Fig. 2.

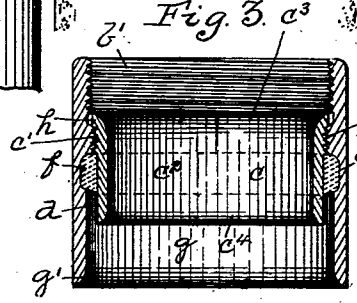

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN CARRUTHERS, OF CALLERY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO MYRON J. PETERS, OF SAME PLACE.

PACKING COLLAR OR SLEEVE FOR OIL, GAS, OR ARTESIAN WELL CASINGS.

SPECIFICATION forming part of Letters Patent No. 563,135, dated June 30, 1896.

Application filed October 12, 1895. Serial No. 565,490. (No model.)

To all whom it may concern:

Be it known that I, JOHN CARRUTHERS, a resident of Callery, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Packing Collars or Sleeves for Oil, Gas, or Artesian Well Casings; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to packing sleeves or collars for casing in oil, gas, and Artesian wells.

In the use of casing in oil, gas, and Artesian wells, it very often happens that the casing at some particular point in the well will wear through on account of the action of water thereon or from other causes, in which case the water would flow into the well, so that it becomes necessary to cut and remove the section of casing below that point and apply new casing thereto.

The object of my invention is to provide a packing collar or sleeve which can easily be applied to the end of the new casing to be inserted into the well, and one which will fit down over the top of the old casing and pack the same in order to make a tight joint.

My invention consists, generally stated, in a packing sleeve or collar for oil, gas, and Artesian well casing having a section of casing engaging with one end thereof, and a seat within said collar or sleeve for engaging with the opposite section of casing.

It also consists in certain other details of construction and combination of parts, all of which will be more fully hereinafter set forth and claimed.

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 view showing two sections of casing with the packing sleeve or collar applied to the upper section ready to be inserted around the lower section. Fig. 2 is a longitudinal sectional view showing the packing sleeve or collar applied around the lower section. Fig. 3 is a sectional view of the packing sleeve or collar removed, and Figs. 4 and 5 are detailed sectional views of the parts composing the packing sleeve or collar.

Like letters indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, a a' show the two sections of casing, these sections a a' being provided with the ordinary threaded sleeves a^2 for connecting the said tubes together at their ends. Fitting on the lower end of the upper section of casing a is the packing sleeve or collar b, said sleeve or collar b being connected to the upper section of casing a by means of the interiorly-threaded end b' on the sleeve or collar b, connected with the threaded end a^4 on the upper section a. Below the interiorly-threaded end b' in the sleeve or collar b and extending out therefrom is the threaded portion b^2, with which engages an interior sleeve c by means of the exterior threads c' thereon. The interior sleeve c extends down below the threaded portion b^2 in the packing sleeve or collar b, so as to form the annular seat d between the interior of the packing sleeve or collar b and the exterior surface of the interior sleeve c for the reception of upper end a^5 of the lower section of casing a'. A recess e is formed in the packing sleeve or collar b between the threaded portion b^2 and the annular seat d for the reception of a rubber gasket or packing f. Below the recess e the packing sleeve or collar b is formed with the smooth interior surface g, terminating in the outwardly-flaring lower end g' The interior surface c^2 of the interior sleeve c terminates with the outwardly-flaring upper and lower ends c^3 c^4, and the upper end c^3 is provided with the annular flange h, which fits against the threaded portion b^2 below the threaded end b' of the packing sleeve or collar b.

The operation of my improved packing sleeve or collar is as follows: After the casing has been in the well for some time and it has been found to become defective through the formation of holes in the same, which allows water and other foreign matter to pass into the well from the exterior of the casing, it becomes necessary to remove the casing above the defective point by means of cutting the same with a casing-cutter below such defective point, jarring the upper portion loose with a jarring-tool and withdrawing the same from the well. After this is done, the new

casing or upper portion a' is inserted within the well, with the packing sleeve or collar b and its connecting parts secured onto the lower end thereof. The upper section of casing a is lowered down the well until it reaches the lower section of casing a', when the upper end a^5 of the lower section a passes into the annular seat d in the packing sleeve or collar b and strikes against the rubber packing f, so allowing the upper section a to rest upon the lower section a' of the casing.

It will thus be seen that with the use of my improved packing collar or sleeve a great amount of tubing or casing can be saved, as the defective part can be removed without any great expense or inconvenience.

The device is simple, cheap, and can easily be applied to the casing. It forms a tight joint and does not interfere with the working of the tools, and any number can be placed in a well if desired.

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

1. A packing sleeve or collar for oil, gas and Artesian wells having an interiorly-threaded surface at one end thereof for engaging with one section of casing, another threaded surface within said packing sleeve or collar, a sleeve or collar engaging with said second threaded surface and adapted to form a seat for the opposite section of casing, and a packing or gasket within said seat, substantially as and for the purposes set forth.

2. A packing sleeve or collar for oil, gas and Artesian wells having an interiorly-threaded surface at one end thereof for engaging with one section of casing, a smooth interior surface at the opposite end, a threaded surface between said interiorly-threaded surface and smooth interior surface, and a sleeve or collar engaging with said threaded surface and adapted to form a seat for the opposite section of casing between the smooth interior surface and the exterior surface of the sleeve or collar, substantially as and for the purposes set forth.

3. A packing sleeve or collar for oil, gas and Artesian wells having an interiorly-threaded surface at one end thereof, for engaging with one section of casing, a smooth interior surface at the opposite end, a threaded surface between said interiorly-threaded surface and smooth interior surface, a sleeve or collar engaging with the said threaded surface and adapted to form a seat for the opposite section of casing between the smooth interior surface and the exterior surface of the sleeve or collar, and a recess within the packing collar or sleeve above said seat having a packing-gasket therein, substantially as and for the purposes set forth.

4. A packing sleeve or collar for oil, gas and Artesian well casing formed of the packing sleeve or collar b having an interiorly-threaded end b', a smooth interior surface g at its opposite end, a threaded surface b^2 between the interiorly-threaded end b' and smooth interior surface g, a sleeve or collar c having an exterior threaded surface c' engaging with the threaded surface b^2 and adapted to form a seat d, a flange h on said sleeve or collar c fitting against the threaded surface b, a recess e formed in the packing sleeve or collar b within the seat d, and a packing ring or gasket f fitting within the recess e, substantially as described.

In testimony whereof I, the said JOHN CARRUTHERS, have hereunto set my hand.

JOHN CARRUTHERS.

Witnesses:

A. M. BLAKELEY,

J. N. COOKE.