

No. 688,543.

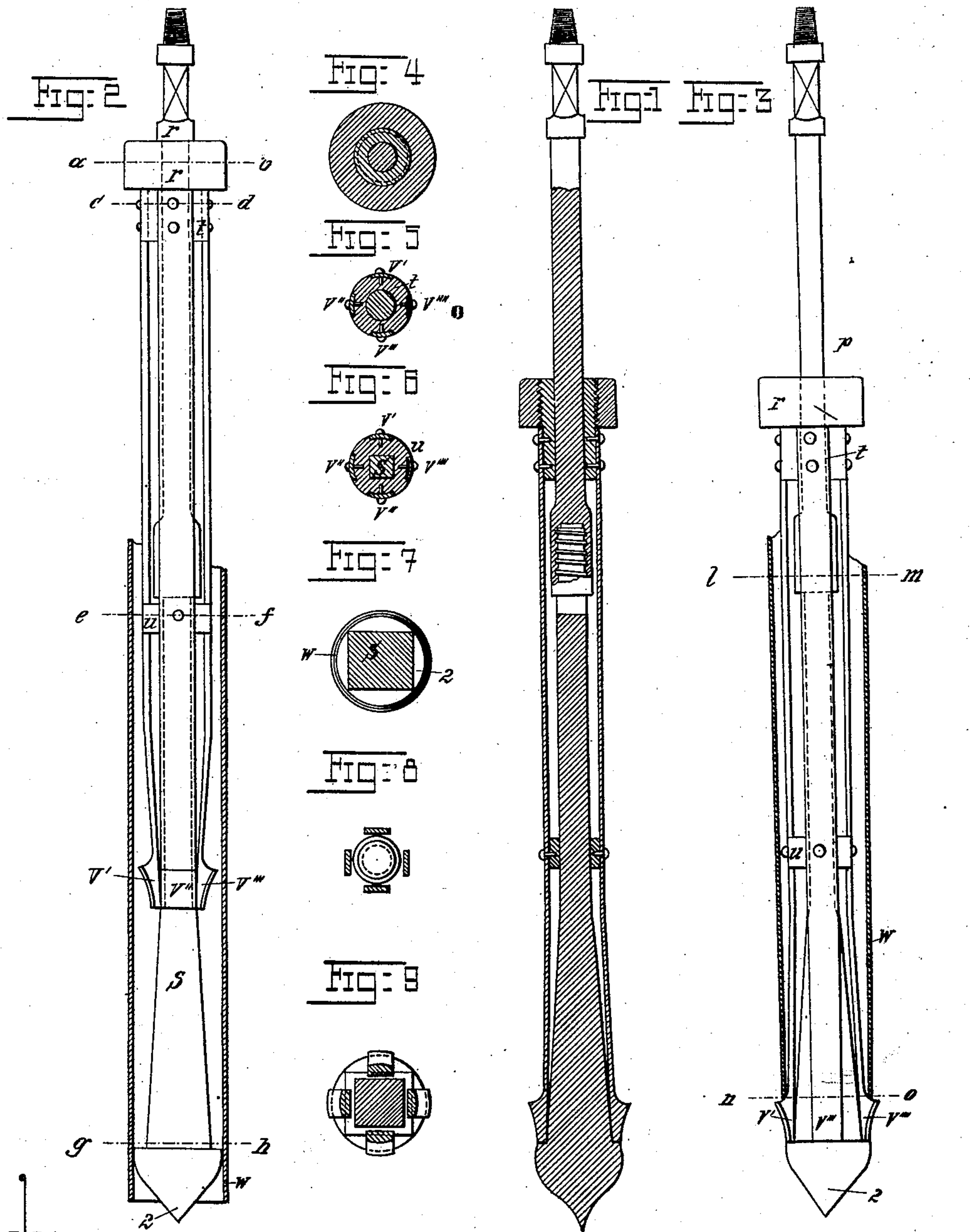
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V. PETIT.

APPARATUS FOR PULLING TUBES OUT OF BORE HOLES.

(Application filed July 30, 1901.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

VICTOR PETIT, OF STRYJ, AUSTRIA-HUNGARY.

APPARATUS FOR PULLING TUBES OUT OF BORE-HOLES.

SPECIFICATION forming part of Letters Patent No. 688,543, dated December 10, 1901.

Application filed July 30, 1901. Serial No. 70,208. (No model.)

To all whom it may concern:

Be it known that I, VICTOR PETIT, managing director, a subject of the King of Belgium, residing in Stryj, Galicia, Austria-Hungary, have invented Apparatus for Pulling Tubes out of Bore-Holes; 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 of reference marked thereon, which form a part of this specification.

This invention has for its object to provide an apparatus for withdrawing tubes from bore-holes, which apparatus is easy to handle and can be used in different ways, according as to whether the tube has to be gripped at its upper or lower end or if it has to be unscrewed from a second tube by turning before it can be withdrawn.

In the accompanying drawings, Figure 1 is a longitudinal section of an apparatus constructed according to this invention, showing the draw-rod raised. Fig. 2 is a side elevation showing the draw-rod pushed out. Fig. 3 is a side elevation showing the draw-rod raised. Figs. 4, 5, 6, and 7 are transverse sections at *a b*, *c d*, *e f*, and *g h*, respectively. Figs. 8 and 9 are transverse sections at *l m* and *n o* in Fig. 3.

The apparatus consists of a draw-rod comprising two members, of which one, *g*, is of square section which thickens up gradually toward its lower end and ends in a cone 2, which projects beyond the section of the draw-rod section, said member ending at the top in a pin with a square thread. This pin screws into a socket *z* at the bottom of the other member *p*, which is round and is provided with a left-hand thread at its top end, by means of which the apparatus is connected to the lifting-tackle. The member *p* is guided easily in a ring *t*, the upper part of which is threaded, the lower part being provided with shallow grooves. A collar *r* of suitable diameter is screwed onto the ring *t*. A second ring *u*, which is provided with grooves similar to those in ring *t*, encircles the member *g*. Strips *v v' v'' v'''*, whose lower ends are made to form very sharp hook-shaped teeth, lie in the grooves in the

rings *t* and *u* and are secured in them by means of screws.

The apparatus can be used in three different ways.

First. To grip a row of tubes at the upper end. For this purpose the apparatus, with the strips *v v' v'' v'''* raised, as shown in Fig. 2, is lowered so far into the row of tubes to be withdrawn that the ring *r* rests on the top tube. If the member *p* and the member *g*, to which it is connected, be pulled, the strips *v v' v'' v'''* on account of their weight do not move with it, but will slide on the tapering member *g*, whereby the strips are forced outward from one another. The greater the pull the more the strips are forced outward and their teeth pressed against the tube. In order to disengage the apparatus and take it out of the tube, the member *p* is simply turned to the right, whereby the member *p* is unscrewed from the member *g* and both parts *p* and *g* separated from one another. If member *p* is now withdrawn from the tube, the socket *z* and the ring *t*, which thus afford coacting abutments, will take against each other, so that said ring *t* and the strips *v v' v'' v'''* are taken along with the member *p*, and the teeth will recede from the tube, thus allowing the whole apparatus to be withdrawn from the tube.

Second. To grip a row of tubes at the lower end. For this purpose it is necessary to unscrew the ring *r* in order that the apparatus can be let right down into the tube. The action of the apparatus in this case for inserting and withdrawing is exactly the same as described under 1.

Third. To unscrew a row of tubes at any desired depth. The apparatus having been lowered into the tube to the desired depth by means of the draw-rods of the lifting-gear the teeth are pressed into the tube, as described above, and the members of the lifting-tackle turned. This turning is transmitted direct to the apparatus and from this latter to the tube which is to be unscrewed. In order that the apparatus may be readily disengaged, two teeth *l* are cut in the screwed pin of the member *g* and in the socket of the member *p*, so that when the socket is screwed onto the pin the teeth approach one another and finally

meet together. The unscrewing of the lifting-gear is by this means greatly facilitated, as the meeting of the teeth prevents the socket being screwed too tightly onto the screwed pin. Without these teeth the socket would become so tightly jammed on the pin when the twist, necessarily very great, is applied for unscrewing a tube that it would be impossible to disengage the apparatus by means of the lifting-rods attached to it.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In an apparatus for removing tubes from bore-holes, the combination of two members detachably secured together end to end, the lower member having a portion thereof tapering upwardly, and a tube-clenching device having portions interposable between the tube to be extracted and said tapering portion of the lower member, the upper member and said clenching device having abutments

adapted to take against each other when the members are detached and the upper one elevated, substantially as described.

2. In an apparatus for removing tubes from bore-holes, the combination of two members detachably secured together end to end, the lower member having a portion thereof tapering upwardly and the upper member having an abutment, a ring surrounding the upper member above, and adapted to impinge against, said abutment, and a series of hooked strips carried by said ring and extending downwardly therefrom, said strips being interposable between the tube to be extracted and the tapering portion of the lower member, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of July, 1901.

VICTOR PETIT.

Witnesses:

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