

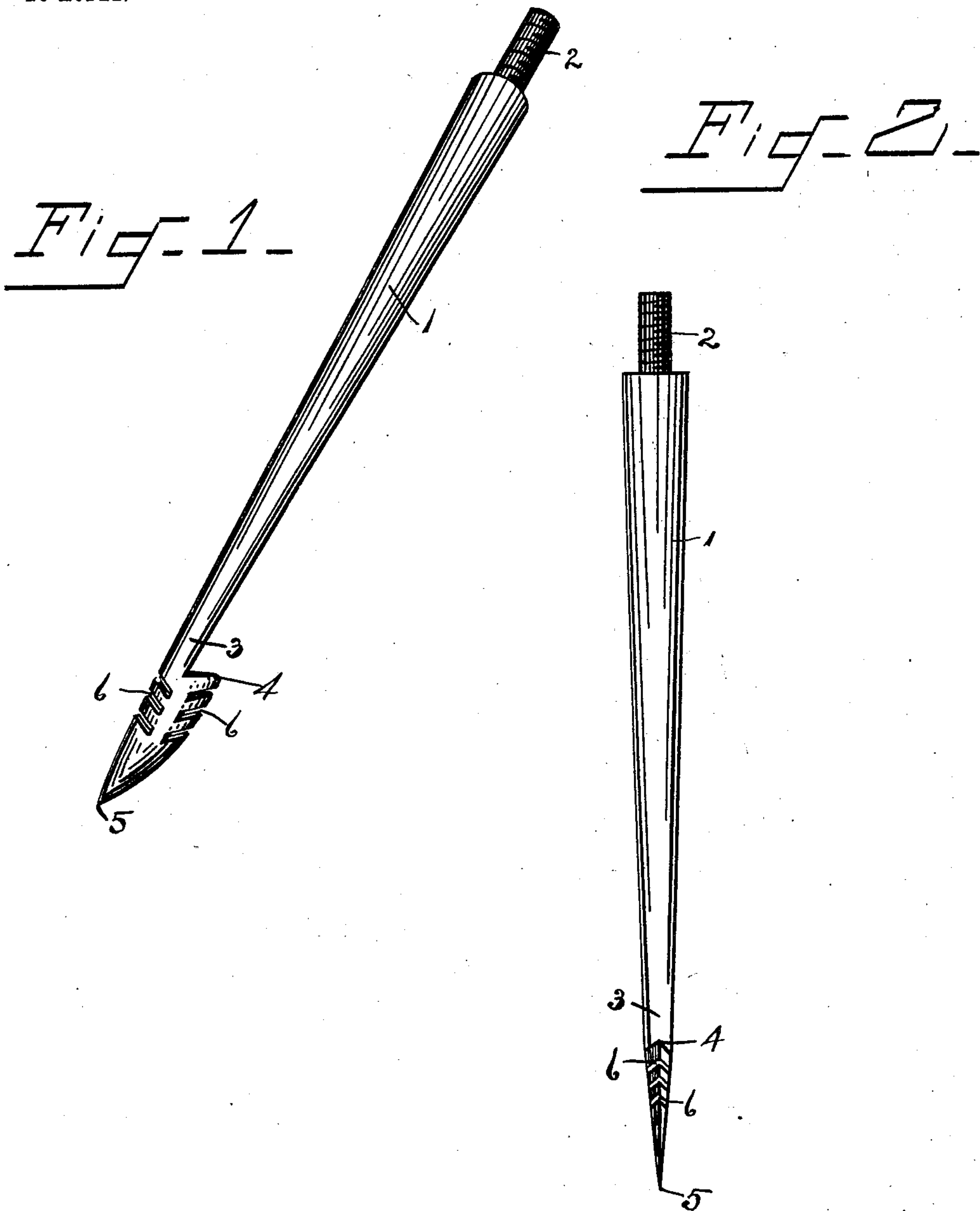
No. 722,694.

PATENTED MAR. 17, 1903.

C. GOODRICH.
VALVE EXTRACTOR.

APPLICATION FILED APR. 18, 1901.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES GOODRICH, OF BETHUNE, COLORADO.

VALVE-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 722,694, dated March 17, 1903.

Application filed April 18, 1901. Serial No. 56,410. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GOODRICH, a citizen of the United States, residing at Bethune, in the county of Kit Carson and State of Colorado, have invented certain new and useful Improvements in Valve-Extractors; 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.

My invention relates to valve-extracting devices; and my object is to provide a device which will reliably perform its office of removing valves from tubes or tubular borings.

The advantages arising from the use of my invention will be made fully apparent from the following specification considered in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of my invention complete, ready to be secured to the end of an ordinary controlling-shaft or pump-rod. Fig. 2 is an edge view thereof.

Referring to the numerals upon the drawings, 1 indicates the body portion of my improved valve-extracting device, which is provided upon its upper end with the threaded terminal 2, designed to be received by a threaded socket in the pump-rod or ordinary controlling-shaft. The opposite end of my improved valve-extracting device is greatly reduced in diameter, as indicated by the numeral 3, and then flattened and abruptly widened, thus forming the offset or shoulder 4. The extreme end is sharpened in the form of a knife-blade, as designated by the numeral 5, the cutting edge being designed to readily take through the material forming a valve, and after the point has extended through said valve it will be engaged by the shoulder 4 and readily removed from the well or other situation.

In case the pocket containing the valve is of shallow depth, which would prevent the point from entering sufficiently to bring the shoulder 4 into engagement with the severed portion of the valve, then in that instance one of the clefts or serrations indicated by the numeral 6 will readily engage said punctured portion and enable the same to be

quickly removed from its position. I therefore deem it important to provide a series of clefts or recesses or serrations 6 to insure that the portion of the valve to be removed may be readily engaged even though the point is prevented from entering but a short distance within the socket containing the portion to be secured. The edges should be sharpened, so that they will readily pierce any of the ordinary substances employed in forming the flexible portion of the valve.

In order to more securely engage the punctured portion, my improved removing device may be partially rotated, which would bring the edge of the material into engagement with one of the recesses upon each edge of the cutting-blade, and thereby insure that the portion to be removed will be very reliably and firmly grasped by the device, inasmuch as it will be observed that the recesses 6 are disposed at an upwardly-inclined angle with respect to the axial line of the body of the instrument.

It will be seen that my device may be very readily coupled onto the end of a pump-rod or may be attached by means of the threaded stems 2, as above set forth, and, while I have described the preferred construction to be adopted in producing my valve-removing device, I desire to comprehend such equivalents and substitutes as may be considered to fall fairly within the scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described valve-removing device comprising the body portion 1 having at one end a threaded stem, and upon the opposite end a flattened spear-like blade sharpened upon both edges and joined to the body portion at one edge thereof, thereby forming the shoulder or offset 4, said blade being provided with a plurality of upwardly-inclined recesses 6 upon both edges near the upper end thereof whereby a yielding part of the valve will be engaged by said recesses, all substantially as specified and for the purpose set forth.

2. The herein-described valve-removing device comprising in a single element the body portion having at one end a stem with

shoulder and upon the opposite end a flattened spear-like blade, sharpened upon opposite edges and having oppositely-disposed parallel-walled clefts or recesses forming
5 sharpened puncturing portions, the body portion near the sharpened end being of greatly-reduced diameter and flattened and abruptly widened to form a shoulder 4 at a point above

and forming one side of one of said clefts, all substantially as shown and described. 10

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

CHARLES GOODRICH.

Witnesses:

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