

W. C. LEAKE.

PIPE PULLER.

APPLICATION FILED AUG. 16, 1916.

1,259,640.

Patented Mar. 19, 1918.

Fig. 1

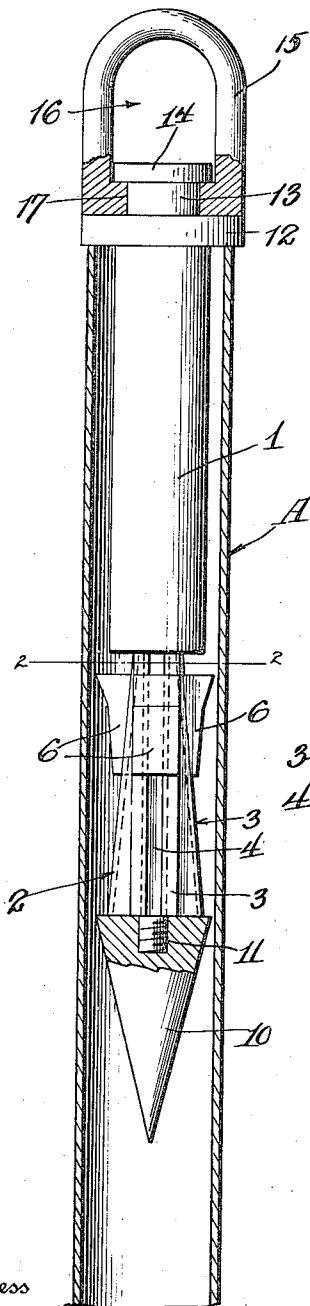


Fig. 2

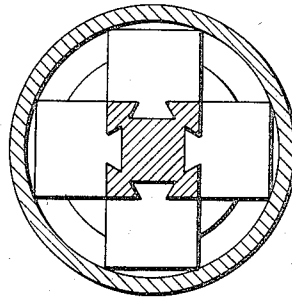


Fig. 3

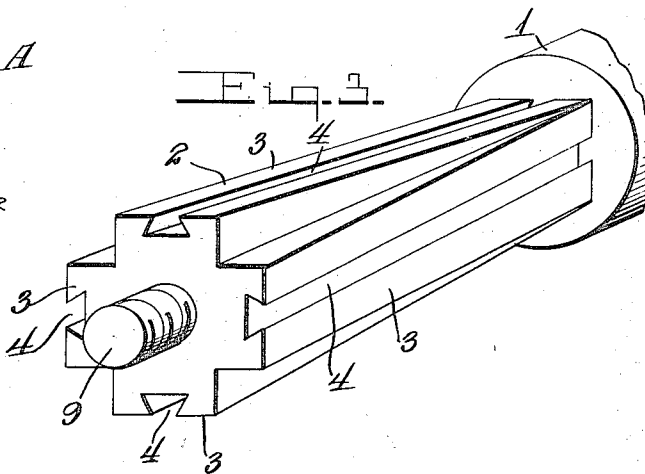
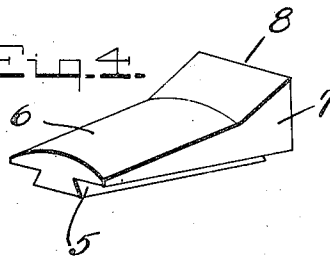


Fig. 4



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# UNITED STATES PATENT OFFICE.

WALTER C. LEAKE, OF WILBURTON, KANSAS.

## PIPE-PULLER.

1,259,640.

Specification of Letters Patent.

Patented Mar. 19, 1918.

Application filed August 16, 1916. Serial No. 115,346.

*To all whom it may concern:*

Be it known that I, WALTER C. LEAKE, a citizen of the United States, residing at Wilburton, in the county of Morton and State of Kansas, have invented certain new and useful Improvements in Pipe-Pullers, of which the following is a specification.

This invention relates to a pipe puller and the primary object is to provide a device for pulling pieces of pipe from wells when the pipes have become lodged in the bottom of the well.

Another object of the invention is the provision of a device that may be placed within the open end of a piece of pipe for effectively gripping the pipe whereby the same may be withdrawn from the place wherein it is lodged or embedded.

As another object of the invention, the device is provided with a plurality of gripping elements which automatically bite into the pipe when a pulling force is exerted on the device.

A further object of this invention is the provision of a pipe puller which consists of comparatively few parts and is simple in construction, but durable and well adapted to withstand the rough usage to which devices of this character are ordinarily subjected.

For a full description of the invention and the advantages and merits thereof, reference is to be had to the following description and the accompanying drawings, wherein is illustrated the preferred form of my invention, in which;

Figure 1 is a vertical longitudinal section through a piece of pipe showing my invention applied thereto.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the wedging member.

Fig. 4 is a perspective view of one of the gripping jaws.

A shank 1 of cylindrical formation is provided and made of any suitable length and is constructed preferably from steel or other suitable hard metal. Integrally formed with one end of the shank is a wedge member 2 clearly shown in Fig. 3 of the drawing. The said wedge member 2 is relatively small at the point at which it joins the shank 1 and increases in size toward its end so that its extreme terminal is greatly increased in

size. Each of the four sides 3 of the wedge member are thereby disposed at an angle to the longitudinal center line of the wedge member and are also provided with grooves 4 which extend the full length of the sides 3. The grooves 4 are of dovetail formation and are adapted to receive the dovetail tongue 5 formed on each of the gripping jaws 6. The gripping jaws 6 are tapered and are provided with the enlarged end 7 having the sharpened edge 8 which is adapted to bite into the pipe when the device is operated.

Integrally formed with the end of the wedge member 2 is a stud 9 provided with screw threads for the reception of a guide member 10 of conical formation and provided with a screw threaded recess 11 which receives the stud 9 so that the guide member is supported by and in engagement with the end of the wedge member 2.

A flange 12 is integrally formed with the opposite end of the shank 1 and beyond the flange is a neck 13 which terminates in a retaining head 14. A swivel 15 is provided and consists of the inverted U-shaped member 16 having a circular collar 17 which fits around the neck 13 and is held in place by the retaining head 14. A rope or cable may be attached to the swivel for pulling the device when the same is in operation.

It will be understood, of course, that the gripping jaws 6 are arranged to slide freely in the grooves 4. When the device is in use, it will be first held in a vertical position which will cause the gripping jaws to drop to the ends of the grooves 4. By raising the gripping jaws to the position shown by Fig. 1 of the drawing, the device may be dropped into the pipe A until the flange 12 rests upon the end thereof. The gripping jaws, of course, will drop until their edges 8 strike the inner wall of the pipe whereupon a pulling force will be exerted on the swivel 15 thereby causing the wedge member 2 to force the gripping jaws into tight engagement with the inner wall of the pipe. The gripping edges 8 will be sharpened and case-hardened and the pulling action will cause the gripping jaws to bite deeply into the pipe when the pulling force is exerted on the swivel 15. The pipe will thereby be withdrawn from the place in which it is lodged and the tool may be easily and quickly removed from the interior of the pipe by simply forcing the wedge member

inwardly thereby disengaging the gripping jaws from the interior of the pipe.

From the foregoing it will be observed that a very simple and durable pipe puller  
5 has been provided, the details of which embody the preferred form. I desire it to be understood however, that slight changes in the minor details of construction may be made without departing from the spirit of  
10 the invention or the scope of the claim hereunto appended.

I claim:

A pipe puller comprising a shank, a wedge member integrally formed with the shank,  
15 the said wedge member having its free end considerably larger than the opposite end and comprising a plurality of flat sides disposed at an angle to the longitudinal center line of the wedge member, each flat  
20 side being provided with a longitudinal

dovetail groove, a plurality of gripping elements each including a tongue disposed within the said groove and freely slidable therein, a transverse sharpened edge formed on the said gripping element, each of said  
25 gripping elements including a tapered portion having one end enlarged, the said gripping edge being formed at the enlarged end, and a conical guide member fixed to the free end of the said wedge member, the  
30 base of the said conical member being of a diameter larger than the width of the said wedge member.

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

WALTER C. LEAKE.

Witnesses:

FRED C. WELCH,  
HENRY MAYFIELD.