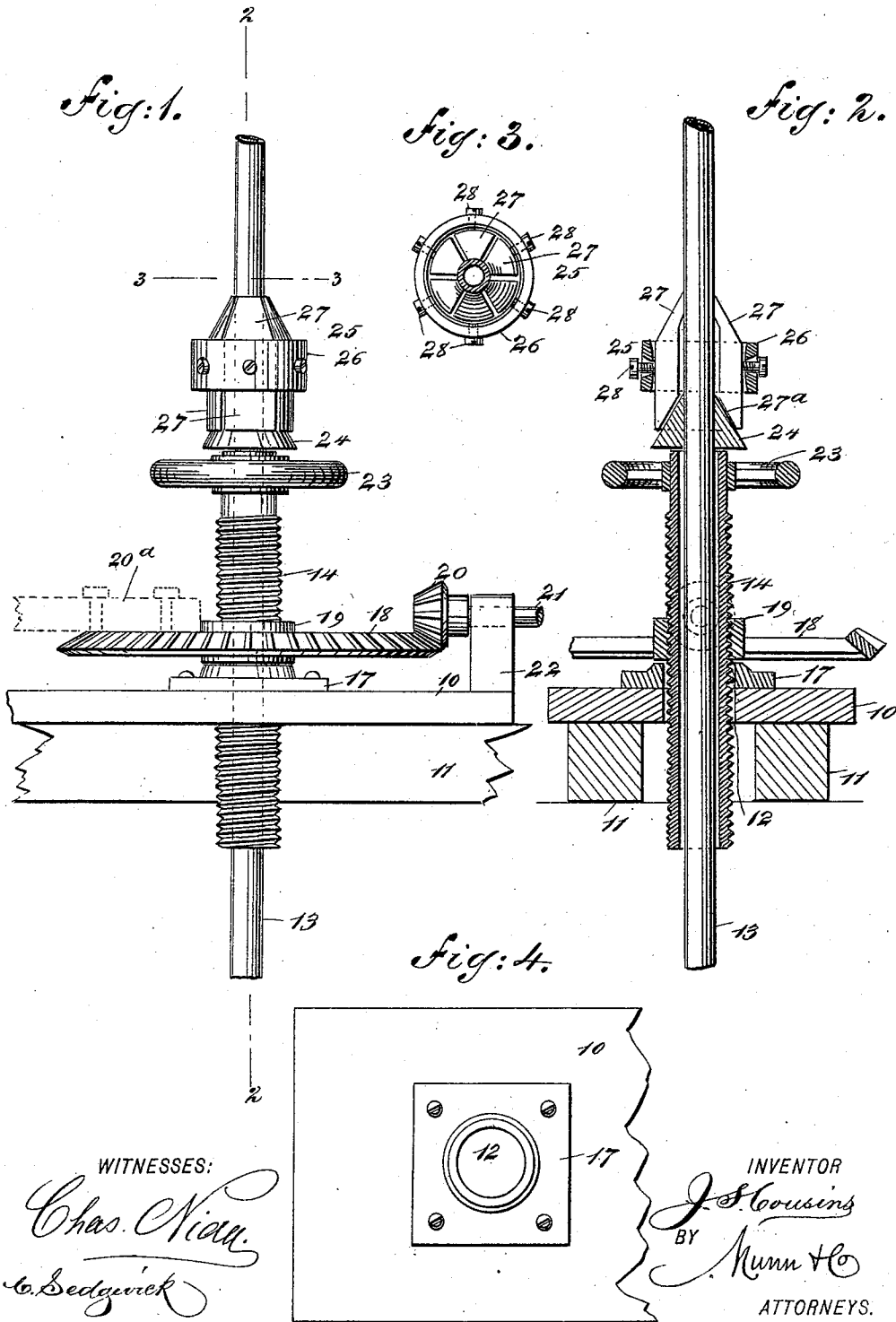


(No Model.)

J. S. COUSINS.
WELL PIPE PULLER.

No. 529,604.

Patented Nov. 20, 1894.



UNITED STATES PATENT OFFICE.

JEROME S. COUSINS, OF WILLIAMSVILLE, MICHIGAN.

WELL-PIPE PULLER.

SPECIFICATION forming part of Letters Patent No. 529,604, dated November 20, 1894.

Application filed January 10, 1894. Serial No. 496,370. (No model.)

To all whom it may concern:

Be it known that I, JEROME S. COUSINS, of Williamsville, in the county of Cass and State of Michigan, have invented a new and Improved Well-Pipe Puller, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of devices which are used for pulling well pipes out of the ground.

10 The object of my invention is to produce a very simple apparatus of this kind, which is cheap and durable, which may be easily applied to a pipe, which has great strength, and which when applied to a pipe enables the latter to be quickly raised.

To these ends my invention consists of certain features of construction and combinations of parts, as will be hereinafter described and claimed.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken side elevation of my improved puller as applied to a pipe. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a sectional plan on the line 3—3 of Fig. 1; and Fig. 4 is a plan view of a simple device for preventing the screw pipe of the puller from turning.

30 The device is provided with a suitable base or support 10, an ordinary heavy plank answering for this purpose which support is adapted to rest upon the well timbers 11 and is provided with a central hole 12, through which the well pipe 13 and the hollow screw 14 may pass. The screw 14 is of sufficient internal diameter to permit an ordinary well pipe and coupling to pass readily through it, and the exterior thread is strong and of a sufficient pitch to enable the pipe to be rapidly raised, as described presently.

45 On the screw 14 is a beveled cog wheel 18 resting on a collar 17, which cog wheel has a hub 19 threaded to fit the screw 14, and consequently the hub acts as a nut, and when it is turned it causes the screw to be lifted vertically. The cog wheel 18 is driven by a beveled pinion 20 on a shaft 21, which is journaled in a suitable bearing 22 on the base 10, and the shaft may be driven by any suitable power or it may be provided with a crank so

that it may be turned by hand. A sweep 20^a may be fastened to the gear wheel 18, as shown by dotted lines in Fig. 1, and a horse may be 55 hitched to the sweep to turn it.

The screw 14 has at its upper end a hand wheel 23, to enable it to be easily turned back after it has been raised by the turning of the cog wheel 18. Above the screw 14 is a conoidal or wedge-shaped collar 24 which has the function of a wedge, as described below, and which fits loosely on the well pipe 13. This wedge is adapted to enter the clamp 25 which is arranged above it on the well pipe, 60 the clamp having a supporting band 26, within which are pivoted the dogs 27, these dogs being pivoted on set screws 28 which project through the ring or band 26, the holes in the ring being of sufficient size to permit the set 65 screws to rock more or less.

The dogs 27 are inclined inward at their upper ends so that they may grip the well pipe when their lower ends are forced apart, and the lower ends are inclined on their inner 75 sides, as shown at 27^a in Fig. 2, the inclination corresponding to the pitch of the wedge 24, so that when the wedge is forced upward it will spread the lower ends of the dogs and cause their upper ends to impinge 80 on the pipe 13, and the greater the pressure on the wedge, the greater will be the impact of the dogs on the pipe, so that there is no danger of the clamps slipping.

In operating the device to lift a pipe, the 85 base 10 is slipped on over the pipe 13, the screw 14 and cog wheels 18 and 20 being in place, as shown, the screw is turned down so that the upper end of the screw is held in the nut or hub 19, the wedge 24 is dropped upon 90 the pipe and against the top of the screw, and the clamp 25 is placed in position above the wedge. Power is then applied to the shaft 21 to turn it, and the pinion 20 turns the cog wheel 18 and hub or nut 19, which acts on the screw 14 to raise the same, and the upper end 95 of the screw striking the wedge 24 forces the latter upward between the dogs and causes the dogs to impinge on the pipe 13, as already described, so that the clamp 25 will not slip 100 upward, and hence the upward movement of the screw, acting on the wedge and clamp, lifts the pipe 13. When the screw 14 has been raised its whole length, it is turned down

by means of the hand wheel 23, the wedge 24 and clamp 25 following it, after which the lifting operation may be repeated and in this way the pipe 13 may be rapidly raised.

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

10 1. A well pipe puller, comprising a base or support provided with a non-threaded aperture, an externally threaded tubular screw extending freely through said aperture, a wheel nut upon the said screw supporting it and resting on the upper side of the base or support, and a clamp or stop adapted to be secured on the well pipe for the upper end of the screw to bear upon as it is raised by the nut, substantially as shown and described.

15 2. A well pipe puller, comprising an apertured base or support, an externally threaded tubular screw extending freely through said aperture, a wheel nut upon the screw and resting on the upper side of the base or screw, and a hand wheel on the upper end of the screw for lowering it while the wheeled nut remains stationary, substantially as shown and described.

3. A well pipe puller, consisting in the apertured base or support, said aperture being non-threaded, the externally threaded tubular screw extending freely through said aperture, a wheel nut upon the screw, resting on the upper side of the base and provided at its periphery with gear teeth, a drive shaft geared thereto, and a bearing adapted to be secured to the well tube to receive the upward thrust of said screw as it is moved upwardly by the rotation of the wheel nut, substantially as shown and described.

4. The herein described clamp for well tubes and rods comprising the endless or unbroken ring provided with a series of apertures extending through it from face to face, a series of dogs within the ring and provided with beveled lower ends, and the headed pins or screws extending freely through said apertures into the dogs and permitting them to rock, substantially as set forth.

JEROME S. COUSINS.

Witnesses:

AMOS WHITE,
REUBEN WEIKEL.