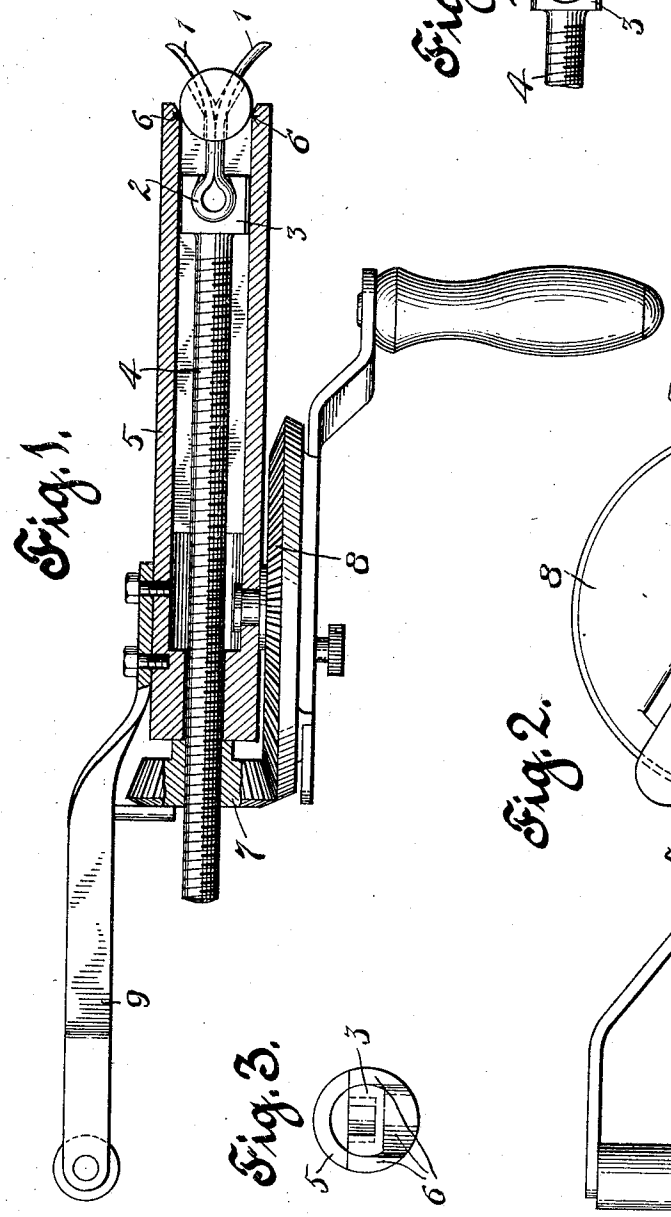
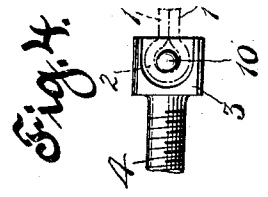
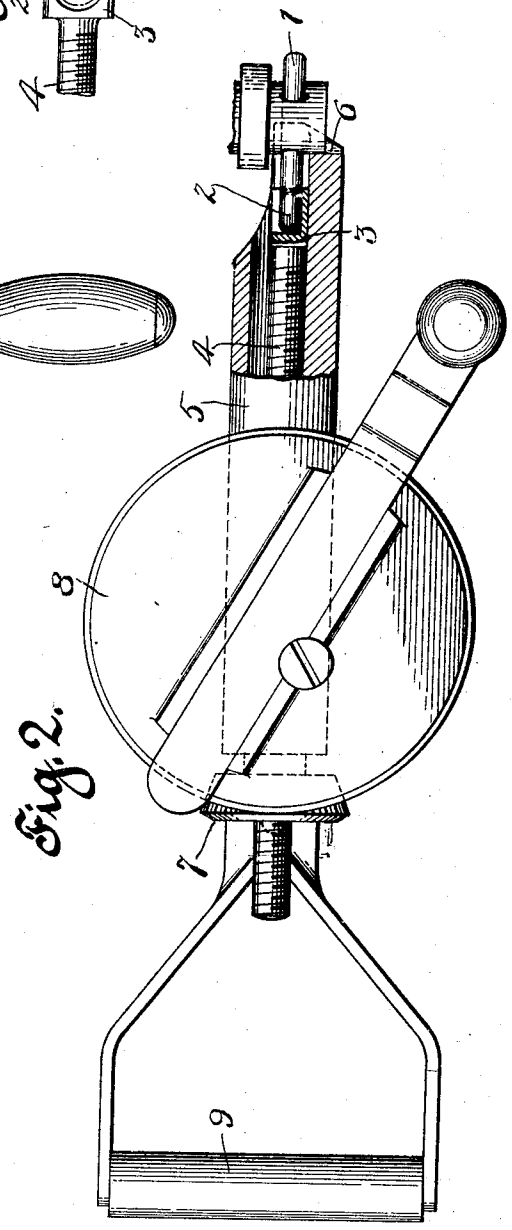
July 14, 1931. G. T. COOKE 1,814,830

COTTER PIN PULLER

Filed Dec. 26, 1929







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Patented July 14, 1931 1,814,830

UNITED STATES PATENT OFFICE

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COTTER-PIN PULLER

Application filed December 26, 1929. Serial No. 416,331.

My invention relates to means for mechanically pulling cotter-pins. My object is to provide a very simple yet powerful means for effectively and quickly pulling out cotter-pins from the parts in which they have been functioning. In many uses of cotter-pins, for example in railroad use, very heavy cotter-pins are generally employed which offer so much resistance to removal that removal by hand, or by an ordinary tool, is almost or quite impossible. When removal is required they are frequently cut off by a cold-chisel or otherwise damaged in the act of removal. By my invention not only may the heaviest pins be quickly and easily removed, but in most cases with little or no injury. This results in a great saving, inasmuch as the cost of the heavier pins is an item of importance, and if old pins may be removed without serious damage they may be used again thus accomplishing a very substantial saving. I shall show and describe my invention in a preferred form fully realizing that various modifications and changes may be made without departing from the spirit or scope thereof.

In the accompanying drawings—

Fig. 1 is a plan view partly in section;

Fig. 2 is a side view partly in section;

Fig. 3 is an end elevation of certain parts shown in Figs. 1 and 2; and

Fig. 4 is a plan view modification of a certain detail.

1—1 represents the two legs of a cotter-pin having the usual head 2. A cotter-pin head engaging means is employed which preferably comprises a block 3 having a cavity or pocket in its side shaped to embrace the outside of the head 2, the front of said cavity being open only enough to permit the cotter-pin legs 1—1 to pass through. That part of the block which embraces the head will function to hold the head so that the cotter-pin may be pulled. 4 is a rod extending back from the block 3. 5 is a frame through which the rod passes. The front end of this frame is suitably shaped by cutting it partially away at one side so as to form an abutment 6 at the end and also to give clearance at the pocket side of said head to expose the pocket therein and to facilitate applying the puller to the cotter-pin head from one side even though said cotter pin lies flat against an adjacent shoulder or wall. Suitable means is provided to exert a powerful drag on the rod in a direction to pull the cotter-pin while the abutment stands firmly against the body from which the cotter-pin is to be withdrawn as shown in Figs. 1 and 2. In the form shown this means comprises a nut 7 threaded on the rod toward its rear end. This nut has suitable gear teeth in its periphery so that it may be turned by an intermeshing gear wheel 8 mounted on the frame, or an extension thereof. This wheel may be turned by hand so as to rotate the nut on the rod and thereby drag the same backwardly relatively to said abutment. Any suitable means may be provided to hold the rod from turning with the nut. In the present instance the flat back of the block 3 rests against a flat wall of the frame and serves this purpose. 9 is a handle by which the tool may be carried and steadied by one hand while the other hand is used to turn the gear wheel 8.

In the modification shown in Fig. 4, 10 represents a stud in the center of the cavity in the block 3 which stud not only acts as a hook to engage the inside of the cotter-pin head but when such a hook is used in conjunction with a cavity, the wall of which embraces the cotter-pin head, the presence of the hook in the inside of the cotter-pin head prevents the collapse of the cotter-pin head should the strain be too heavy on the outside. Either means will operate alone to pull the pin in ordinary cases.

I claim:

1. A cotter-pin puller comprising a frame having a passage therein, a rod movable in said passage and having a block provided with a pocket for receiving a cotter-pin head, the side walls of said pocket embracing said head, and means for applying pressure to the rod and frame in opposite directions.

2. A cotter-pin puller comprising a frame having a passage therein, a rod movable longitudinally in said passage, means for applying power to move said rod, a block at the forward end of said rod having a pocket therein

to embrace the outer side of the head of the cotter-pin and to hold the same flatwise therein, and an abutment on the forward end of said frame extending forwardly of said block, the opposite side of said frame being cut away on the pocket side of said block to afford clearance to permit said block to be applied to the cotter-pin.

3. A cotter-pin puller comprising a frame having a passage therethrough, an abutment at one side of said passage, a rod carried by the frame, a block carried by the rod, a pocket in the side of the block to receive the head of a cotter-pin flatwise therein, a projection in said pocket extending into the space within the cotter-pin head, and means to move said rod in said frame and relatively thereto to pull said cotter-pin.

GEORGE THOMAS COOKE.