

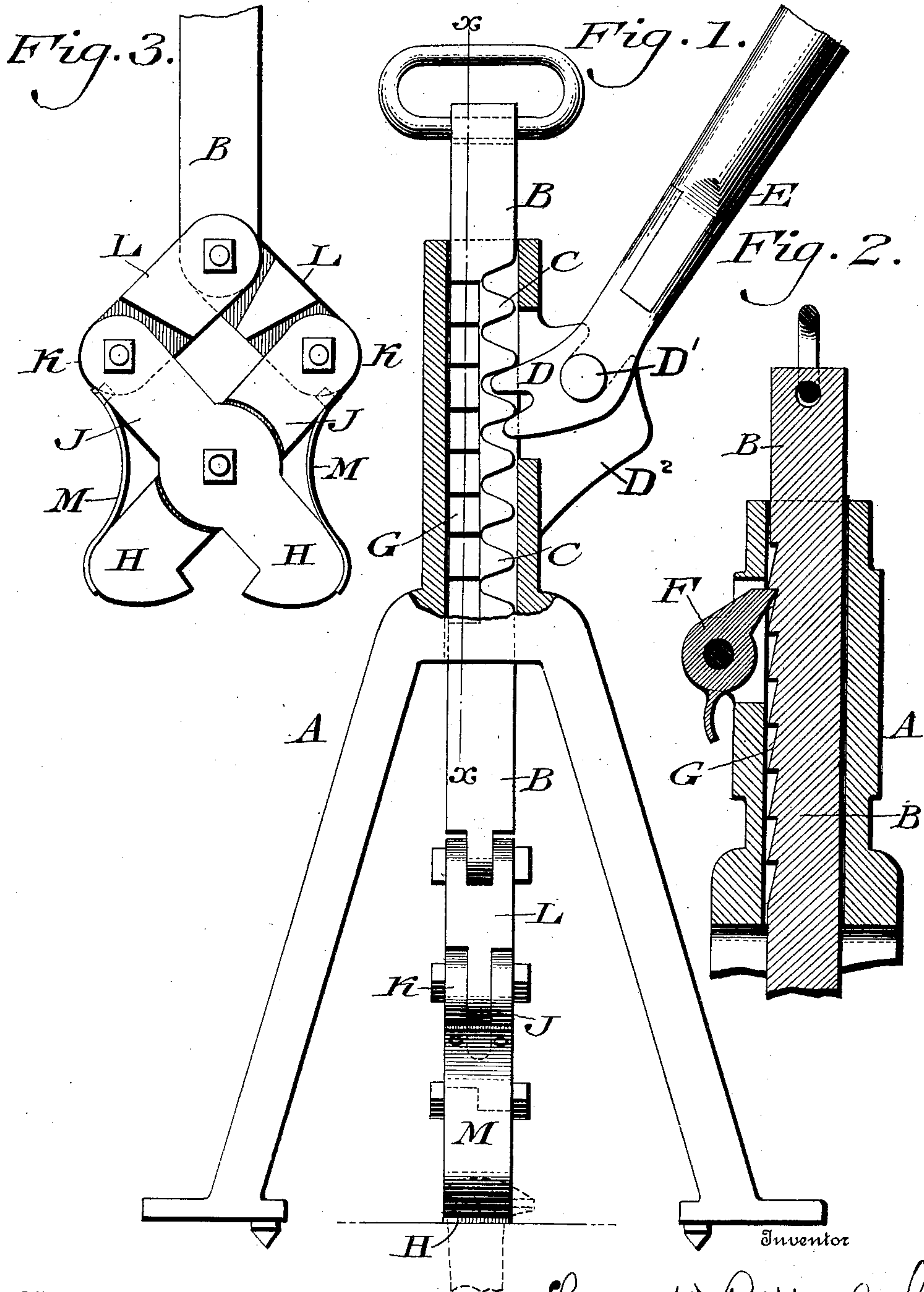
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G. W. RITTERSBACH, JR.

SPIKE EXTRACTOR.

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UNITED STATES PATENT OFFICE.

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SPIKE-EXTRACTOR.

No. 898,064.

Specification of Letters Patent.

Patented Sept. 8, 1908.

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To all whom it may concern:

Be it known that I, GEORGE W. RITTERSBACH, Jr., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Spike-Extractor, of which the following is a specification.

My invention consists of a spike extractor embodying a draft bar, jaws connected with the same and means including a removable dog and a lever connected therewith for operating said bar, whereby said jaws close on a spike and take firm hold thereof, so that the spike follows the bar and is extracted.

It also consists of details of construction as will be hereinafter set forth.

Figure 1 represents a partial vertical section and partial side elevation of a spike extractor embodying my invention. Fig. 2 represents a vertical section of a portion on line $x-x$ Fig. 1. Fig. 3 represents a side elevation of a portion at a right angle to Fig. 1.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings: A designates a standard whose upper part A' constitutes a guiding sleeve for said bar and in which is fitted the movable draft bar B, partly of the form of a rack as at C, the teeth of which are adapted to be engaged by the dog D which is pivotally mounted on the upper portion of said standard and is provided with the operating handle or lever E whereby by proper motion of the latter, said dog may cause the successive elevation of said bar. On said portion is also mounted the check pawl F which is also adapted to engage the ratchet G on the side of bar B in order to prevent improper descent of said bar.

H designates inwardly projecting jaws which are adapted to engage a spike to be extracted, it being noticed that said jaws are connected with the lower members J of toggles K, the upper members L of which are pivotally connected with the lower end of the bar B and depend therefrom.

Connected with the members J are springs M which bear inwardly against the jaws H to assist in closing the same, it being noticed that when said bar is lowered, said jaws may separate or be separated so that they may be fitted over a spike below the head thereof and when said bar is raised, said jaws owing to action of the springs M immediately begin to

close toward the spike and locate under the head thereof, so as to unfailingly engage the latter preparatory to the gripping action of the jaws on the spike. Then as the bar continues to rise, the jaws positively grip the spike below the head, and so take firm hold of the same, the spike then follows the jaws, and so is extracted.

The springs M are of the order of plate springs and they occupy the exterior of the toggles and jaws, whereby they may be firmly riveted or otherwise secured in position on said toggles and conveniently located on the jaws, while being easily accessible for replacement in the event of breaking. By the employment of plate springs, the same are powerful in causing the quick engagement of the jaws with the spike, so that said jaws will not slip on the head of the spike when the jaws begin to rise. These springs each have one end bearing against the head of one jaw and their other ends secured to the lower members J of the toggles at a point above the pivotal point between said jaws and lower members, thus doubly exerting pressure on the jaws to close them.

When the spike is extracted the pawl F is thrown out from the ratchet G and the dog D moved from the teeth of the rack bar, when the latter lowers and operates the toggles in such manner that the jaws H separate and clear the spike, the effect of which is evident.

The dog D has its journal D' mounted on ears D² which extend outwardly from the sleeve of the standard, the slots D³ (shown dotted) in said ears which receive said journals being open at their outer terminals forming a bifurcation by which provision, said journals may be moved into and out of position by sliding motions, said slots extending obliquely downward so that when the lever E is depressed in order to raise the draft bar B, said journal occupies the inner terminal of said slot and so is prevented from upward shifting and displacement, it being evident that owing to the open slots D² the lever E and with it the dog D may be lifted off of the ears D² and thus removed from the body of the device convenient for carrying, packing and transportation.

When the device is to be used, the lever is conveniently fitted upon the ears D² when the dog is immediately in condition for action to raise the bar B and consequently the

jaws without requiring any special fastenings for retaining the lever E in operative position, other than the walls of the slots D³.

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

1. In a spike extractor, a standard having a vertically extended guide portion, a rack bar movable therein, means for actuating said rack bar, inwardly projecting jaws pivotally connected together and their upper portions forming the lower members of a toggle, the latter having upper members, which are pivotally connected with the lower end of the rack bar, and springs connected with the toggles and extending substantially in line with said bar and in opposite directions beyond the pivot of the jaws and bearing against the outer faces of the latter.

2. In a spike extractor of the character stated, an elevating bar, a guide in which it is vertically movable, means for moving said bar vertically step by step, means for auto-

matically holding said bar in its elevated position, a toggle pivotally connected with said bar, a jaw extending from the lower members of said toggles, and a spring extending in the direction of the length of the bar and connected at one end with said toggle and being freely at the other end on said jaw, and bearing on the exterior faces of said toggle and jaw.

3. In a spike extractor, a standard, a draft bar guided therein, means for actuating said draft bar vertically, a toggle pivotally connected with said bar, jaws carried by the lower members of said toggles and springs each having an end bearing against the outer face of one jaw and its other end secured to the lower toggle member of the other jaw at a point above the pivot of said jaws.

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