

(No Model.)

J. FULLER & J. MORRISON.

THILL JACK.

No. 402,519.

Patented Apr. 30, 1889.

Fig. 1.

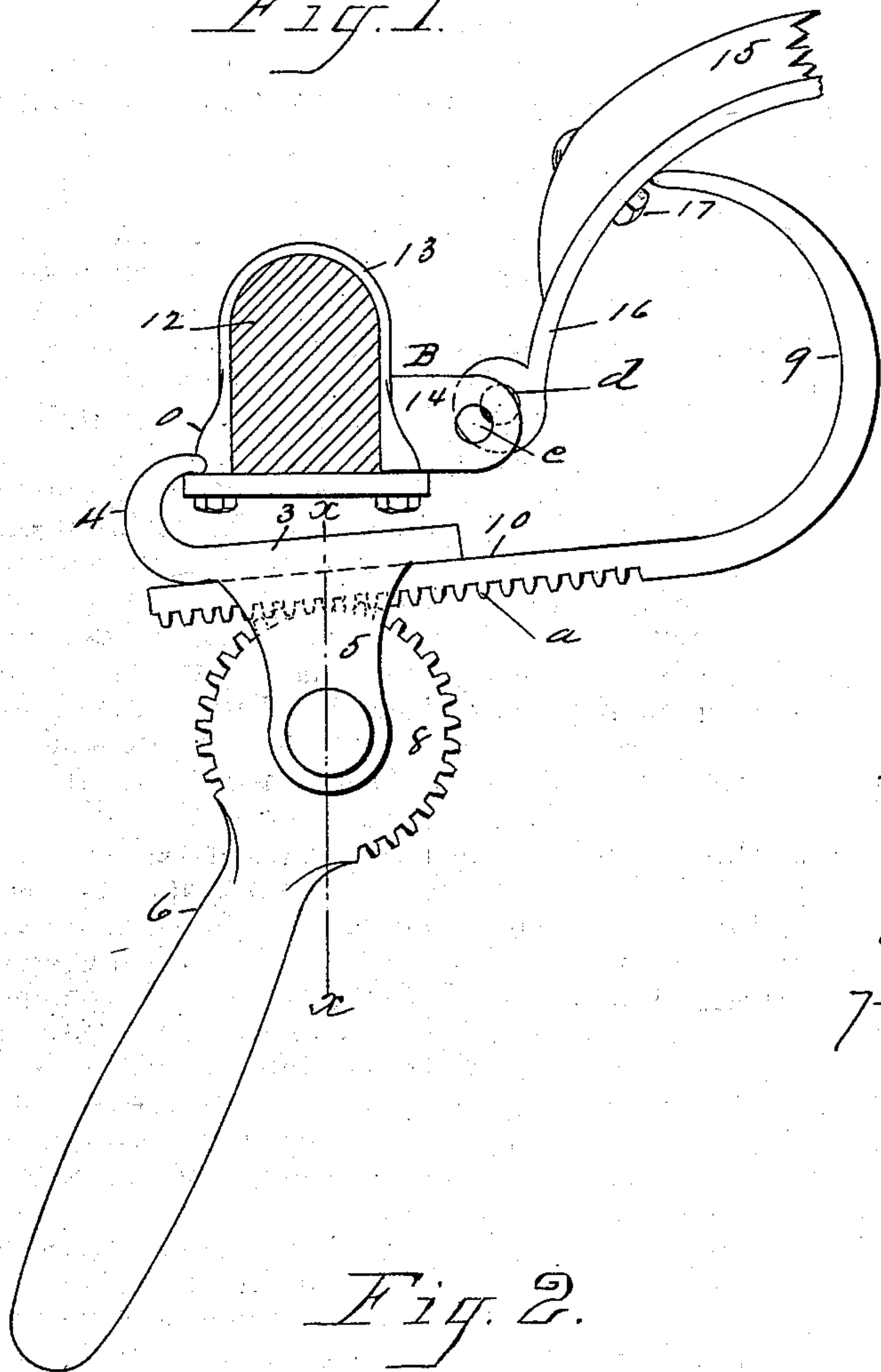


Fig. 3.

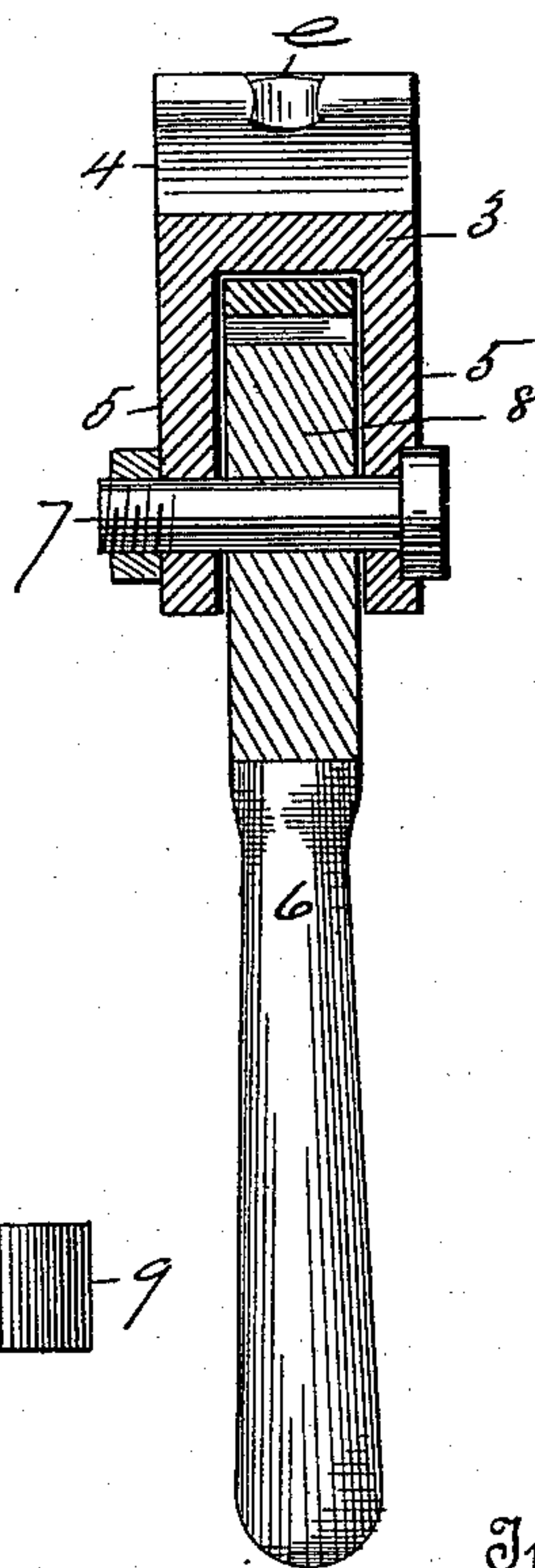
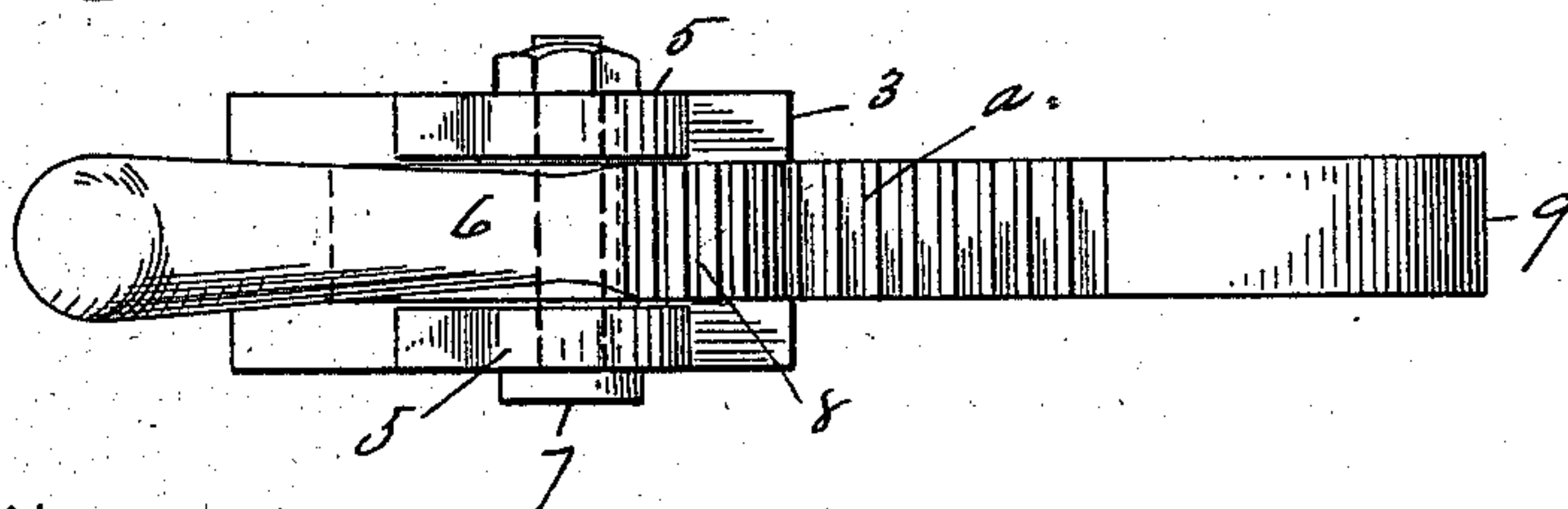


Fig. 2.



Witnesses

Wm. S. Bellows
G. W. Chamberlain

Inventors

Jacob Fuller and
James Morrison,
By their Attorneys,
Chapman

UNITED STATES PATENT OFFICE.

JACOB FULLER, OF FLORENCE, AND JAMES MORRISON, OF EASTHAMPTON,
MASSACHUSETTS.

THILL-JACK.

SPECIFICATION forming part of Letters Patent No. 402,519, dated April 30, 1889.

Application filed September 3, 1888. Serial No. 284,418. (No model.)

To all whom it may concern:

Be it known that we, JACOB FULLER and JAMES MORRISON, citizens of the United States, residing, respectively, at Florence and Easthampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Thill-Jacks, of which the following is a specification.

This invention relates to thill-jacks, the object being to provide an improved machine of this class whereby the necessity of adjusting any part or parts of the machine before using it is obviated; and the invention consists in the peculiar construction and arrangement of the several parts of the machine, all as hereinafter fully described, and pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a side elevation of a thill-jack constructed according to our invention, said jack being shown in operative relation to a portion of a thill, and the thill-clip of an axle, the latter being represented in section within said clip. Fig. 2 is a bottom plan view of the thill-jack; and Fig. 3 is a vertical section thereof through the line *x x*, Fig. 1.

The within-described thill-jack consists of a central frame portion, 3, having thereon a fixed hook, 4, and two cheek-pieces, 5, between which is pivoted a pinion-headed lever, 6, by a pivot-bolt, 7, passing through said cheek-pieces and the head of said lever, the latter having on its pivoted end and as a part of the same the pinion-head 8. The said lever 6 has a free vibratory motion on said pivot-bolt 7, and between the periphery of its head 8 and the adjoining side of the frame 3, between said cheek-pieces 5, is left an opening for the reception of one end of another part of the device, as below described.

A movable hook, 9, has a shank, 10, as a part thereof, on one side of which is a rack, *a*, and the hook 9 is engaged with the frame 3 and the pinion of the lever 6 by passing the shank 10 between said pinion and frame, as shown in Fig. 1, causes the engagement of said pinion and rack, thereby providing for the movement of the hook 9 toward and from the fixed hook 4 by grasping the lower end of lever 6 and swinging or giving it a vibratory motion.

In Fig. 1, 12 indicates the section of a carriage-axle; and 13 a thill-clip secured on said axle in the usual manner and having two laterally-projecting cheek-pieces, 14, thereon, through which is a bolt-hole, *c*. The rear portion of a thill, 15, has the thill-iron 16 secured thereto by one or more bolts, 17, said thill-iron having through its lower end a bolt-hole, *d*.

The purpose of the within-described thill-jack is to facilitate the uniting of the thill-iron 16 with the clip 13 after some anti-rattling device—as india-rubber or a metallic spring—shall have been inserted between the cheek-pieces 14 of the thill-clip and between that portion of the side of said thill-clip between its cheek-pieces and the circular perforated lower end of the thill-iron 16, which is shown partially inserted between the cheek-pieces of the clip in Fig. 1 to about the position it would occupy when brought against the said spring or anti-rattling device preparatory to forcing the thill-iron to such position between said cheek-pieces by compressing said spring, so that the bolt-holes *c* and *d*, respectively, of the cheek-pieces 14 and the thill-iron would so register that a uniting-bolt may be passed through said parts to secure the thill to the clip.

In bringing the cheek-pieces of the thill-clip and the thill-iron to the above-mentioned positions the thill-jack is operated as follows: The fixed hook 4 of the jack-frame is engaged with the rear side of the thill-clip, as shown in Fig. 1, a notch, *e*, in the end of said hook having such an engagement with a rib, *o*, on the rear side of the clip as prevents the hook 4 from slipping laterally, and by swinging the lower end of the lever 6 to the left the hook 9 is extended to a position somewhat beyond the head of one of the bolts 17, which unites the thill and the thill-iron, and the head of said bolt is brought into engagement with the end of said last-named hook. The said anti-rattling spring is then placed between the end of the thill-iron and the clip 13, and the said lower end of the lever 6 is then swung to the right, thereby drawing the hook 9 and the end of the thill-iron toward the axle 12, at the same time compressing said spring and bringing said bolt-holes *c* and *d* to such positions as permit of passing the bolt through said

parts, thereby pivotally connecting the thill-iron to the clip. The jack is disengaged from the thill and axle by again swinging the free end of lever 6 to the left.

5 The within-described thill-jack is by its construction adapted to be used for applying thills to thill-clips and assisting in the connection of one to the other, as above described, in cases where the distance between the rear
10 side of the axle and the bolt of the thill, with which the hook 9 engages, varies considerably without having to adjust any of the parts of the device to fit the latter to such variation, as has been the case with similar devices here-
15 tofore constructed, and hence the device provides an implement of simplicity of construction and adaptability to its uses, which constitute material advantages over old devices of this kind.

What we claim as our invention is—

20 A thill-jack consisting of a frame-plate, 3, a hook, 4, and the opposing ear-pieces 5 5, formed thereon, a pinion-headed lever pivoted by its toothed end in said ear-pieces, and the shank-bar 10, provided with the hook 9, 25 formed integrally therewith, said bar being provided with rack-teeth on its outer side, engaged by said pinion, and constrained thereby against outward movement from the said frame-plate and held by said ear-pieces 30 against lateral movement thereon, as shown and described.

JACOB FULLER.

JAMES MORRISON.

Witnesses:

HENRY E. MAYNARD,
ENOCH G. STEVENS.