

No. 769,032.

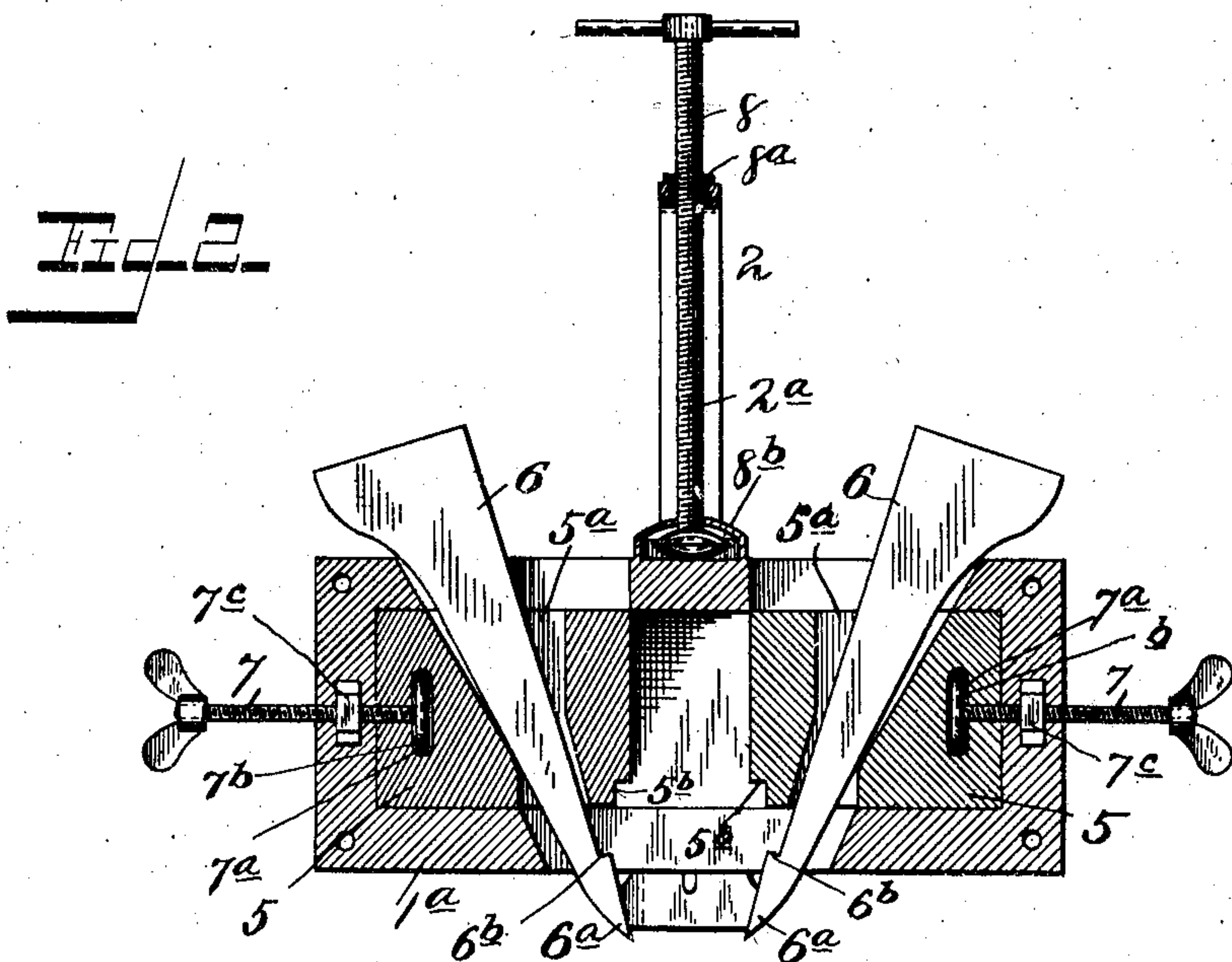
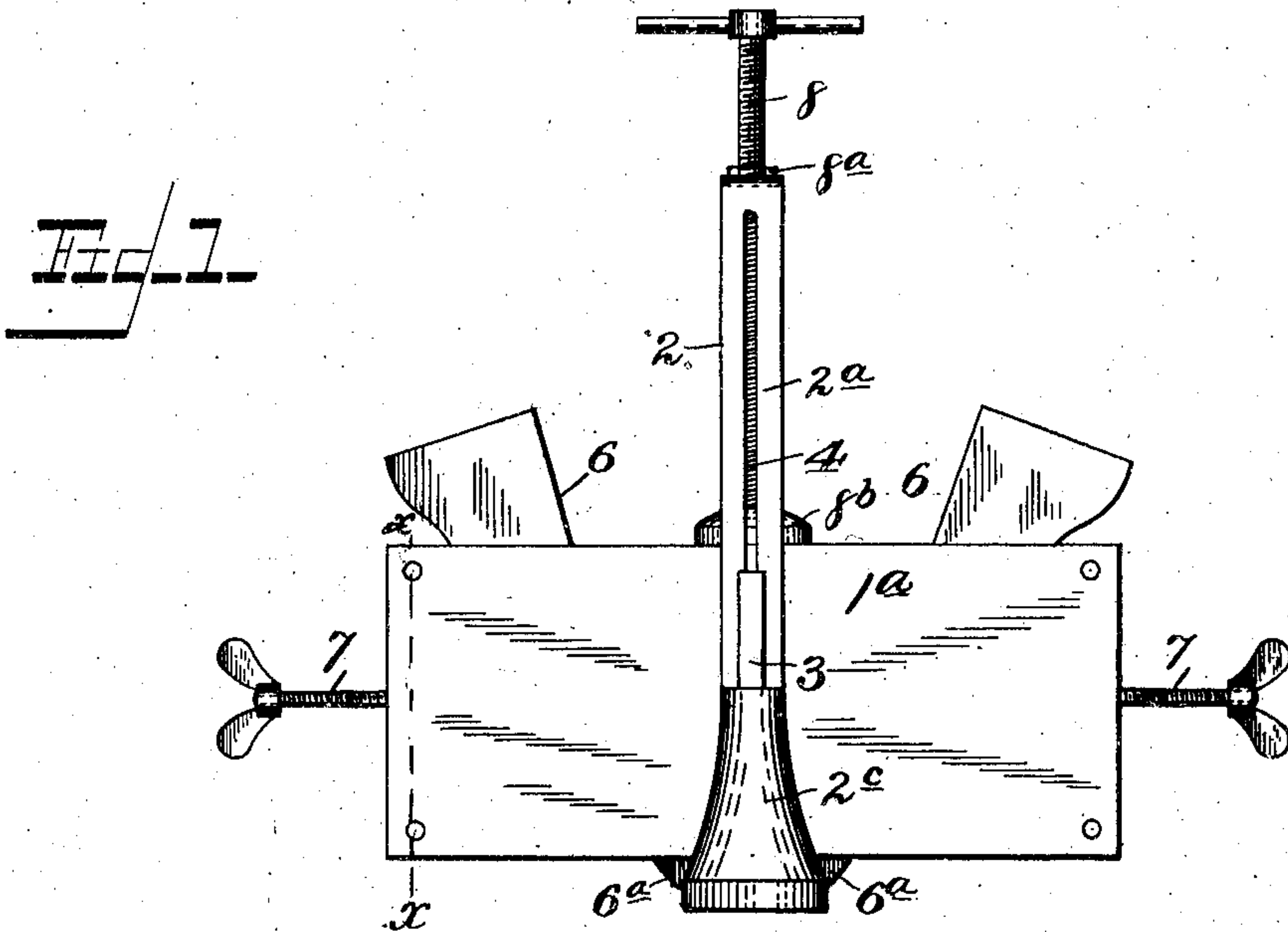
PATENTED AUG. 30, 1904.

A. J. THATCHER.
BOLT PULLER.

APPLICATION FILED MAR. 21, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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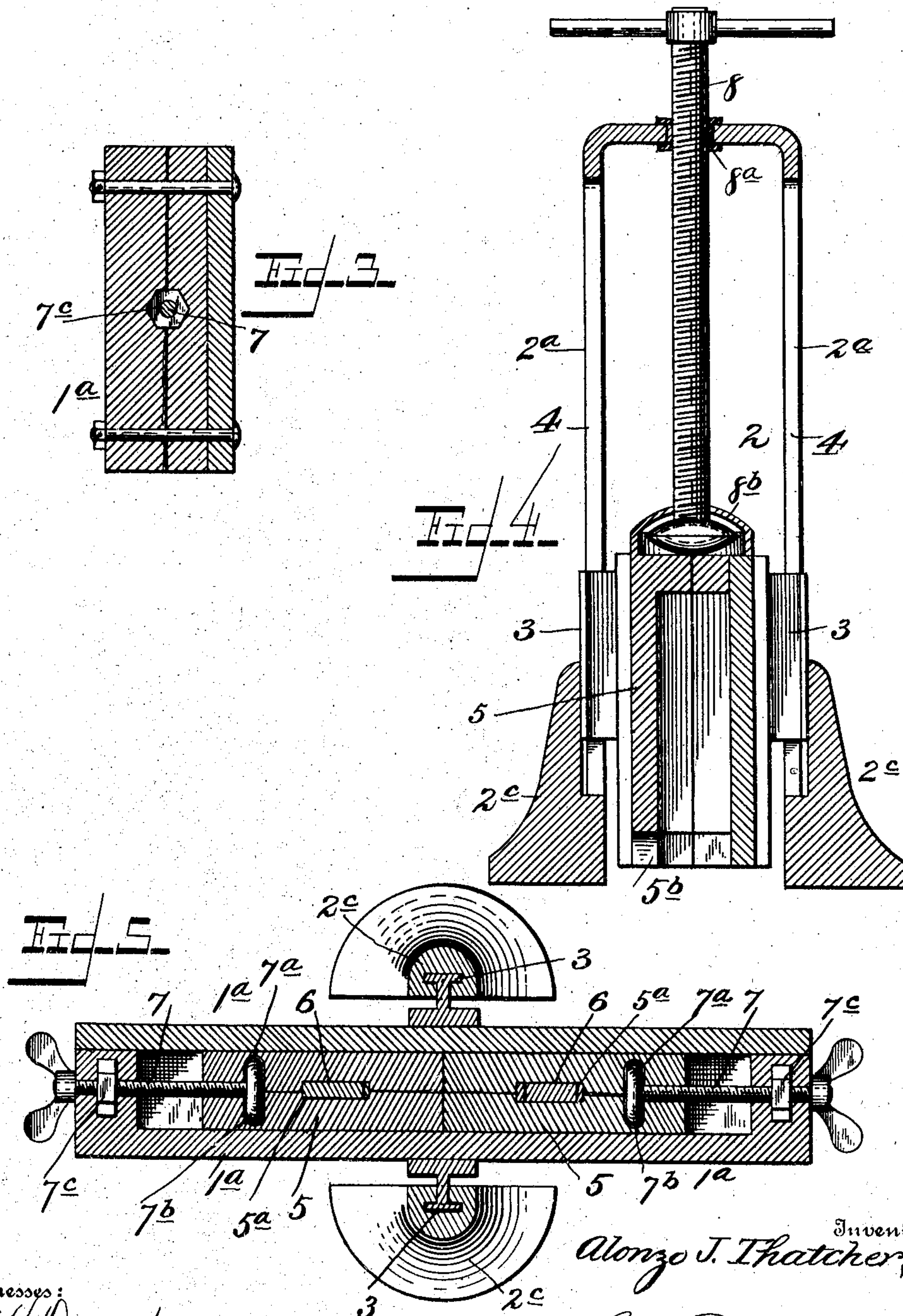
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALONZO J. THATCHER, OF CHILLICOTHE, OHIO.

BOLT-PULLER.

SPECIFICATION forming part of Letters Patent No. 769,032, dated August 30, 1904.

Application filed March 21, 1904. Serial No. 199,157. (No model.)

To all whom it may concern:

Be it known that I, ALONZO J. THATCHER, a citizen of the United States, residing at Chillicothe, in the county of Ross and State of Ohio, have invented certain new and useful Improvements in Bolt-Pullers, of which the following is a specification.

My invention pertains to improvements in that class of devices adapted for withdrawing or extracting bolts, spikes, or nails.

It has for its object principally to effect the extracting or withdrawing of the bolt or spike in a right line, so as to prevent the liability of the bending or distorting thereof, as has been experienced in the use of certain appliances heretofore employed for that purpose.

Said invention is also characterized for simplicity, effectiveness, and readiness of application, while it is readily constructed and cheaply manufactured.

It consists of the combination, arrangement, and construction of parts, substantially as hereinafter more fully disclosed, and particularly pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a side elevation of the latter. Fig. 2 is a partly-section and side elevation of the same with one side of the casing or body removed. Fig. 3 is a vertical transverse section produced on the line *xx* of Fig. 1, showing more especially the embedded nut connection between the casing or body and the follower-actuating screws. Fig. 4 is a central transverse section of the device, and Fig. 5 is a horizontal section taken through the body or casing of the device.

In the practicing of my invention I employ a casing or body portion 1, preferably formed in two suitably-connected vertically-disposed sections or parts 1^a 1^b, arranging or supporting said body portion between the uprights or standards 2^a of a vertical frame or support 2, with the lower ends of said standards or uprights terminating in feet or bases. Said body portion or casing has central lateral flanged guides 3, arranged in longitudinal or vertical slots 4 in the standards or uprights 2^a, the lower portions of said slots opening laterally into housing-like braces or castings 2^b,

formed at those points of said standards and providing for receiving the flanges of said guides. Arranged within said body portion or casing 1 are endwise-opposed followers or slides 5, arranged to be relatively moved or slid, as presently described, and carrying jaw members 6, whose extreme lower edges or surfaces 6^a are adapted to be presented laterally to and engage the bolt or spike, while just above these surfaces or edges said jaw members are formed with shoulders 6^b, arranged to engage the under side of the spike or bolt head, as in effecting the extracting or withdrawing operation. Said jaw members have their lower ends, terminating their bolt engaging or gripping edges or surfaces, also tapered or pointed to permit the same as they are hammered or similarly acted upon to readily penetrate or enter the wood around the embedded portion of the bolt or spike to provide for initially disposing or bringing their shoulders under the bolt or spike head or flange, as will be readily understood. Said jaw members are received or arranged in passages or openings 5^a, converging or approaching at their lower ends in the followers 5, and accordingly are permitted to be brought closely together at their bolt or spike engaging lower edges and shoulders, while they bodily diverge from each other upwardly, and therefore as the body portion or casing is moved in that direction or lifted, carrying with it of course said followers, said edges and shoulders previously brought into engagement with the bolt or spike will be forced firmly into such engagement, and thus provide for the effective withdrawal or extraction of said bolt or spike and permit such operation in a right line, thereby preventing the bending or distorting of the latter, as has heretofore been experienced in the use of certain appliances devised for the same purpose. The upper ends of said jaw members are suitably adapted to permit the hammering or otherwise exerting or applying the requisite force or blows thereto to drive their lower tapered ends into the material or wood around the embedded bolt to bring their shoulders under the bolt-head, as above noted, and for the purpose aforesaid. The lower surfaces

of the followers are recessed or cut away, as at 5^b, to initially receive the bolt-head, as in placing the extractor or device in position for use. Said followers or slides are adapted, as 5 their designation indicates, to be relatively moved endwise by means of screws or rods 7 to permit the requisite adjustment or disposition of said jaws according to the size of the bolt to be engaged and extracted thereby, 10 as will be readily appreciated. Said screws or rods have their inner ends enlarged or provided with shoulders 7^a, let into apertures or sockets 7^b in the followers 5, to permit said screws or rods to turn independently of the 15 latter, and within the end portions or walls of the body portion or casing are arranged fixed internally-threaded nuts 7^c, with which engage said screws. Therefore as the screws are actuated from their conveniently-formed 20 outer ends said followers are caused to move longitudinally for the purpose stated.

A handle-provided screw 8, suitably arranged to engage an internally-threaded nut or sleeve 8^a, set into the upper end cross-piece 25 or yoke of the upright frame 2, has its lower end suitably rotatably held in a collar or bearing 8^b, secured to the upper edge of the casing or body portion 1^a, to provide for the convenient raising or lifting thereof, as in effecting the bolt or spike extracting operation 30 previously described.

Latitude is allowed as to details herein, as they may be changed as circumstances suggest without departing from the spirit of my 35 invention and the latter still be protected.

I claim—

1. A device of the character described, embracing jaws adapted to grip the object to be 40 extracted, followers having diagonal or inclined passages converging toward their lower terminals and containing said jaws, means for laterally adjusting said followers, means supporting in position said followers, and means

for imparting upward movement to said follower-supporting means. 45

2. A device of the character described, embracing jaws adapted to grip the object to be extracted, followers having diagonal or inclined passages converging toward their lower 50 ends and carrying said jaws, means for laterally adjusting said followers, a casing adapted to support said followers, and means for imparting upward movement to said casing.

3. A device of the character described, embracing jaws adapted to grip the object to be 55 extracted, a casing or body portion, followers arranged in said casing or body portion, having inclined downward-converging passages or sockets receiving said jaws, means for the adjustment of said followers, an upright frame 60 supporting said casing or body portion, and an actuating-screw for said body portion, bearing in said upright frame.

4. A device of the character described, embracing a casing or body portion having cen- 65 tral lateral flanged guides, an upright frame having its lateral members provided with vertical slots receiving said guides, followers arranged in said casing and having downward-converging passages or sockets and means for 70 their endwise movement, and jaws adapted to grip the object to be extracted and let into said sockets or passages, and an actuating-screw for said body portion or casing, engaging an internally-threaded nut carried by said 75 upright frame, at its upper end, said screw having a rotatable connection with said body portion.

In testimony whereof I have signed my name to this specification in presence of two wit- 80 nesses.

ALONZO J. THATCHER.

Witnesses:

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LOUIS M. DAY.