

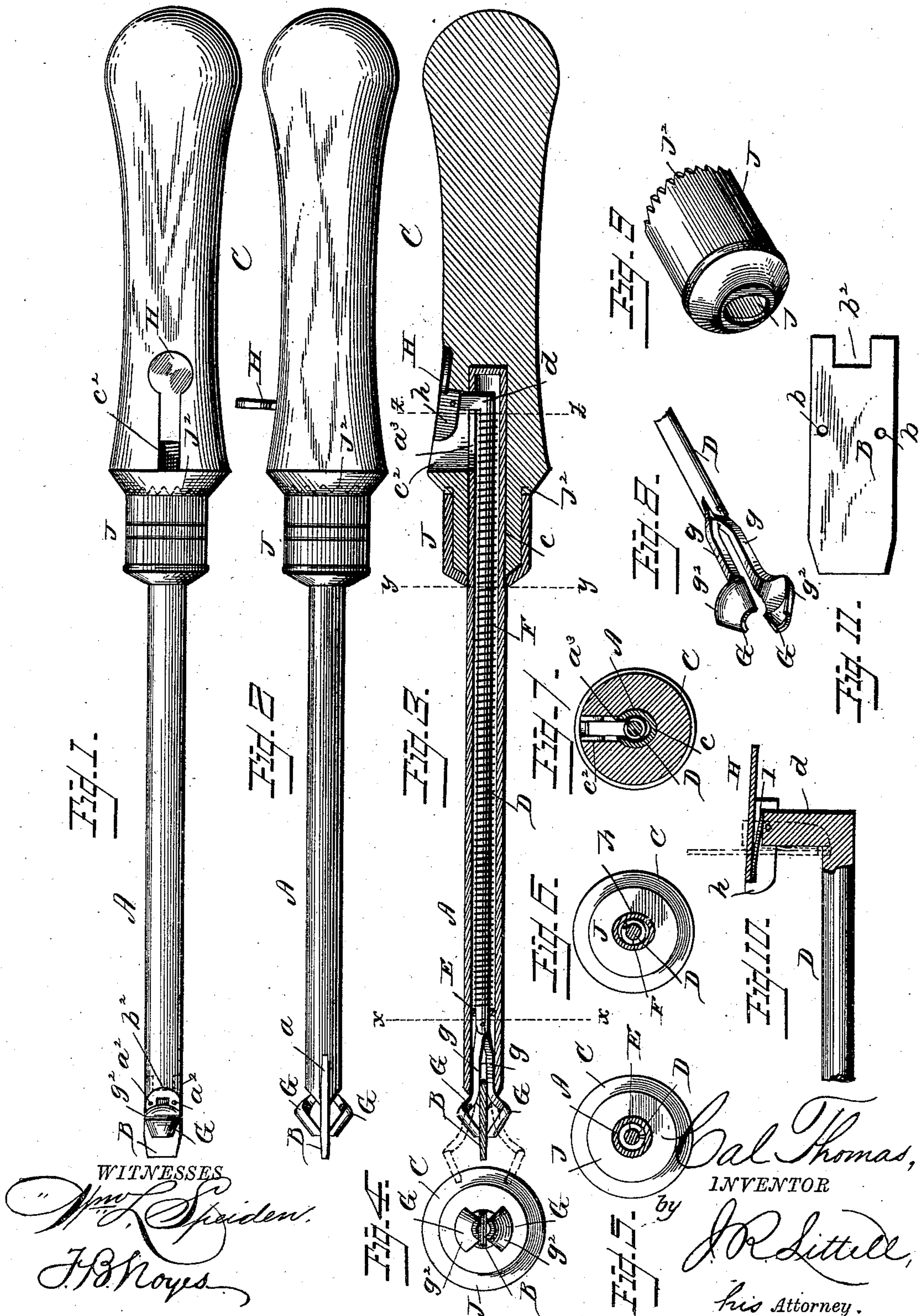
(No Model.)

C. THOMAS.

SCREW DRIVER AND ADJUSTER.

No. 307,150.

Patented Oct. 28, 1884.





# UNITED STATES PATENT OFFICE.

CAL THOMAS, OF TERRE HAUTE, INDIANA.

## SCREW DRIVER AND ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 307,150, dated October 28, 1884.

Application filed July 5, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CAL THOMAS, a citizen of the United States, residing at Terre Haute, in Vigo county, and State of Indiana, have invented a new and useful Screw-Adjuster, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to screw-adjusters, and its object is to provide an improved device or tool of this class which will possess advantages in point of simplicity, inexpensiveness, durability, and general efficiency, and by the use of which the screw can be conveniently and readily adjusted.

In the drawings, Figure 1 is a side view of my improved screw-adjuster. Fig. 2 is a corresponding view showing the edge of the bit-plate. Fig. 3 is a longitudinal sectional view. Fig. 4 is a front end view. Fig. 5 is a transverse sectional view taken on the line  $x x$ , Fig. 3. Fig. 6 is a transverse sectional view taken on the line  $y y$ , Fig. 3. Fig. 7 is a transverse sectional view taken on the line  $z z$ , Fig. 3. Fig. 8 is a detail perspective view of the jaws. Fig. 9 is a detail perspective view of the ferrule or cap. Fig. 10 is a detail sectional view taken longitudinally through the rear end of the sliding rod and through the thumb-piece. Fig. 11 is a detail plan view of the bit-plate.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the barrel or tubular stock, which may be formed of a piece of ordinary metallic pipe or tubing, and is provided with a solid or closed lower end, in which is formed a transverse slot,  $a$ , extending in a longitudinal direction, and adapted to receive the blade or bit-plate B. The bit-plate is preferably formed of a flat strip or plate of steel, and is provided with perforations  $b b$ , which register with corresponding perforations,  $a^2 a^2$ , (shown in Fig. 1,) in the solid or closed end of the barrel, the bit-plate being secured firmly in position by means of rivets passing through these perforations, or in any other suitable manner. In the inner edge of the bit-plate a square recess,  $b^2$ , is provided, to obviate interference of the bit-plate with the free action of the jaws, and at the same time to permit sufficient length of bit-plate to provide for the

rivet-perforations formed therein. The inner end of the barrel is received by a corresponding recess or socket,  $c$ , in the handle C, and is provided with a longitudinally-disposed slot,  $a^3$ , registering with a longitudinal slot,  $c^2$ , in the handle.

D designates a sliding rod, which is disposed within the barrel A, and passes through an interior guide-ring, E, secured near the outer end of the barrel. The rear end of this rod is bent or turned up to form an arm,  $d$ , at about right angles to the main portion of the rod, which arm projects through the slot  $a^3$  into the slot  $c^2$ . A coiled spring, F, is arranged around the rod D, between the ring E and the arm  $d$ , the tension of the spring being normally exerted to draw the rod toward the rear end of the barrel.

G G designate the adjusting-jaws, which are pivoted to the end of the rod D, and project through openings in the solid or closed end of the barrel at each side the bit-plate. These jaws are adapted to hold and adjust the screw, and are preferably cut from steel or other metal, or they may be formed by casting, or in any other suitable manner. The jaws are preferably rectangular in cross-section, and comprise the solid arms or shanks  $g g$ , bent to form an angle, as shown, and a broad curved head,  $g^2$ , concaved at its inner face, the construction of the jaws being best illustrated in Fig. 8.

From the foregoing construction it is manifest that when the rod is forced toward the front end of the barrel, against the tension of the coiled spring, the jaws will slide in front of the bit-plate and spread, as illustrated in dotted lines, Fig. 3, so that they can grasp screw-heads of various sizes, and when the pressure upon the rod is released the tension of the spring causes the jaws to clamp the head of the screw and bring the latter back in proper position in relation to the bit-plate.

To provide for the convenient operation of the sliding rod, a thumb-plate, H, comprising a flat main portion and depending wings or flanges  $h h$ , is pivoted upon the top of the arm  $b$ , the said flanges being arranged to embrace the arm, as shown, and provide a fulcrum for the plate. A flat spring, I, is interposed between the thumb-plate and the top of the arm, to retain the former in closed or in elevated



position, as the case may be. The thumb-plate normally rests down within the slot  $c^2$  in the handle, and when it is desired to push the rod D forwardly, to enable the engagement of the 5 pivoted arms with the screw, the thumb-plate is elevated upon its pivot, so that it will project from the handle, as shown in Fig. 2, when it may be conveniently engaged by the thumb to push the sliding rod forwardly against the 10 tension of the coiled spring.

J designates a ferrule or cap, in the outer end of which is formed an oblong or elliptical opening,  $j$ , which receives the inner end of the barrel. The inner portion of the barrel is 15 driven through the oblong opening of the ferrule in the manufacture of my improved screw-adjuster, and therefore becomes flattened and assumes the shape of said opening, by which construction the barrel is prevented 20 from turning during the operation of the device. The inner edge,  $j^2$ , of the ferrule is serrated or milled to form projections, which enter the shoulder upon the handle and obviate turning or displacement of the ferrule.

25 The operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. In practice the thumb-plate is first raised and the screw-adjuster held in the hand in the usual manner, 30 when, by pressure of the thumb against the thumb-plate, the sliding rod is forced forwardly, and the pivoted jaws are carried out beyond the end of the bit-plate and enabled to clamp the head of the screw, so that when the pressure upon the thumb-plate is removed the ac- 35 tion of the coiled spring causes the jaws to bring the head of the screw into proper engagement with a bit-plate, when the tool may be operated with one hand, in the usual manner, to drive the screw home. 40

My improved screw-adjuster is simple and inexpensive in construction, and by its use the screw may be conveniently adjusted in position without the annoyance ordinarily ex- 45 perience in adjusting screws with the fingers.

It is manifest that should the bit-plate or any other part become broken or damaged it can be readily removed and a new piece substituted.

50 I claim as my invention and desire to secure by Letters Patent—

1. As an improvement in screw-adjusters, the combination, with the barrel or tubular stock formed in a single piece with a solid or closed outer end, and provided with the slot 55 in this integral closed end, and with the perforations extending through the same, of the bit-plate provided with side perforations, and rivets passing through the registering perforations, substantially as set forth. 60

2. The combination of the barrel or tubular stock, the handle receiving the same, and the ferrule having an oblong opening receiving the barrel, and provided with the serrated edge engaging the handle, substantially as set forth. 65

3. The combination of the barrel having the integral closed outer end, provided with a slot and openings, the handle having the recess receiving the inner end of the barrel, the ferrule having an oblong or elliptical opening, through 70 which the barrel passes, and having the serrated edge, the sliding rod, and the jaws passing through the opening in the closed end of the barrel, substantially as and for the purpose set forth. 75

4. As an improved article of manufacture, a device of the class described comprising the barrel or tubular stock having a spread or elliptical inner end, and a securing-ferrule having a corresponding oblong or elliptical open- 80 ing, substantially as and for the purpose set forth.

5. The combination, with the barrel or tubular stock having the slot at its inner end, and with the handle receiving said end, and pro- 85 vided with the registering slot or recess, of the sliding rod and the thumb-plate pivoted to the inner end of the sliding rod, and thereby adapted to be folded down into the recess in the handle, substantially as and for the pur- 90 pose set forth.

6. The combination, with the sliding rod having the angular inner end, forming the projecting arm, of the thumb-plate pivoted upon the arm, and the flat spring interposed be- 95 tween the plate and the top of the arm, substantially as and for the purpose set forth.

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Witnesses:

JOHN T. SCOTT,  
HORACE B. JONES.