

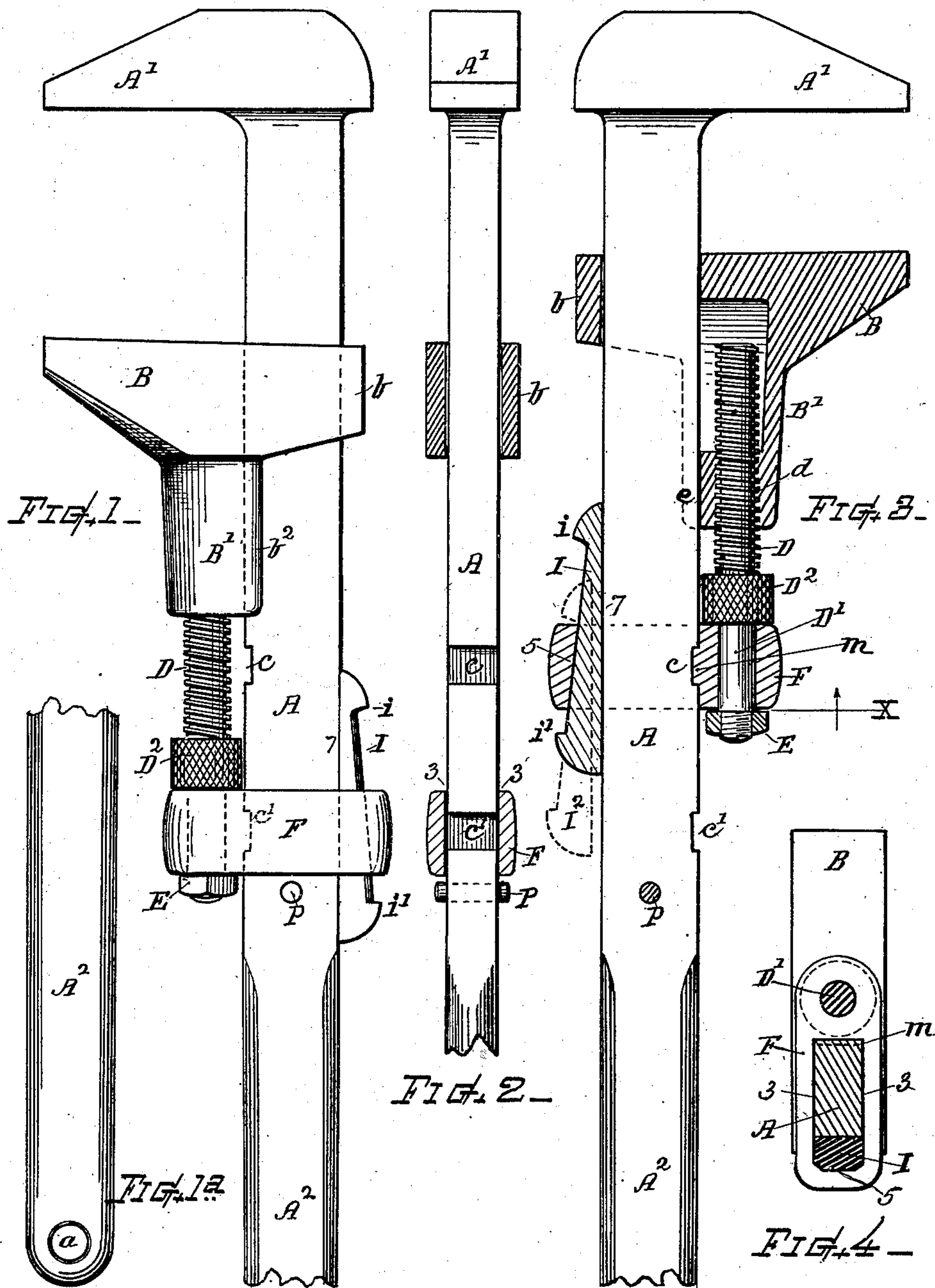
No. 742,006.

PATENTED OCT. 20, 1903.

L. COES.  
WRENCH.

APPLICATION FILED MAR. 2, 1903.

NO MODEL.



Witnesses—

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# UNITED STATES PATENT OFFICE.

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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 742,006, dated October 20, 1903.

Application filed March 2, 1903. Serial No. 145,667. (No model.)

*To all whom it may concern:*

Be it known that I, LORING COES, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Wrenches, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide a practically efficient and convenient wrench adapted for turning or screwing large and various work—such as pipe-unions, couplings, heavy nuts, &c.—also to produce a wrench having facilities for extended and fine adjustments, as more fully hereinafter explained. I attain these objects by the wrench mechanism illustrated in the accompanying drawings, wherein—

Figure 1 represents a side view of a wrench embodying my invention. Fig. 1<sup>a</sup> is the continuation of the handle pertaining to Fig. 1. Fig. 2 represents a sectional view showing the front edge of the wrench-bar. Fig. 3 is a sectional side view with the screw-supporting collar adjusted at its upper position on the wrench-bar, and Fig. 4 is a transverse section at line X looking toward the jaw.

In the construction of my improved wrench the wrench-bar (indicated on the drawings by the letter A) is made as a long rectangular bar having the head or fixed jaw A' integrally formed upon its upper end, while at the lower end a portion of the length of the bar is rounded along the edges to adapt it as a shank or handle part A<sup>2</sup>, suitable to be gripped by the hands. The end is preferably provided with a hole *a* transversely through it. In the front edge of the rectangular part of the wrench-bar there are formed a plurality of positioning-recesses, cross-lugs, or cavities, as *c* and *c'*, disposed in upper and lower relation at some distance apart upon the bar and made of substantially similar form. The movable jaw B, which slides upon the bar, is formed with a single bar-

embracing strap *b* and with a downwardly-extended hub B', internally threaded, as at *d*, and having side lips *b*<sup>2</sup>, that embrace the parallel sides of the bar, while the inner surface of said hub B' is fitted to seat against the front edge of the wrench-bar, as at *e*. A shiftable screw-supporting collar F is provided for sustaining the thrust of the jaw B and jaw-adjusting screw D, which latter is threaded into the jaw-hub at *d* and is provided with a journal or spindle portion D', that extends through an opening in the fore part of the collar which forms a bearing wherein the screw-spindle is rotatable. The screw D has an externally-roughened thumb boss or rosette D<sup>2</sup> formed thereon and disposed to abut or shoulder against the top of the collar. A nut E is threaded onto the end of the spindle below the collar for confining the screw-journal longitudinally while permitting its free rotation within the collar-bearing. The collar F surrounds the wrench-bar, and its opening, through which the said bar passes, is made to embrace the flat sides of the bar with a comparatively close but movable fit, as at 3, (see Figs. 2 and 4,) while at its rear end said opening is made to extend for some distance beyond the back of the wrench-bar and is formed with an upward inwardly-inclined surface, as at 5. The collar is provided internally with a lug or engaging member *m*, (see Fig. 3,) adapted to fit into or interlock with either one of the positioning-recesses *c* or *c'*, formed on the front edge of the wrench-bar, as indicated. An endwise-drivable upwardly-tapered wedge-shaped key I is arranged through the opening in the collar at the back of the wrench-bar, said key being preferably the same width as the wrench-bar and having a flat surface that seats against the bar, as at 7, and an inclined outer surface that seats against the inclined inner end surface 5 of the collar-opening, as shown. Said key I is best provided with protuberant outwardly-rounded end portions presenting inward shoulders, as at *i* and *i'*, which prevent the escape of the key from the collar-opening when loosened. A



stud or pin P is fixed in the bar A adjacent to and below the position of the collar adjustment, which pin serves as a guard to prevent the collar when released from sliding  
5 off the rectangular part of the bar.

When assembling the parts of the wrench, the jaw-adjusting screw is arranged in the collar and movable jaw, the key is placed in and through the collar-opening, and the jaw  
10 and collar are then slipped onto the lower end of the wrench-bar and moved up to position before the pin P is inserted, after which said pin is driven through the bar and upset or riveted in, as desired. By driving the  
15 key I endwise down to the position indicated by dotted lines I<sup>2</sup> (see Fig. 3) the collar F is loosened, so that the lug *m* can be unlocked from the recess *c* and the collar shifted along the bar to the position of the other recess *c'*  
20 and the collar there interlocked and firmly secured in place by retightening the key I, the collar then being located as in Fig. 1. By this means the capacity of the wrench is varied for larger or smaller work, while affording  
25 convenient facility of screw adjustment for the jaw at either position of the collar adjustment. Two positioning-recesses *c* and *c'* are shown in the present illustration; but if greater extension is desired an additional po-  
30 sitioning recess or recesses can be in similar manner employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A wrench consisting of a wrench-bar hav-  
35 ing a fixed jaw thereon, a movable jaw mounted to slide on said wrench-bar, a rosetted jaw-adjusting screw threaded into said movable jaw, a shiftable screw-supporting collar mounted on said wrench-bar and having the journal  
40 of said jaw-adjusting screw rotatably supported therein, interlocking means consisting of a rigid lug formed on the front interior of the collar and oppositely-shouldered recesses on the front of the wrench-bar, engageable at  
45 upper and lower positions and adapted for resisting the thrust strain on said screw, and a keying-wedge at the back of the bar adapted

for securing and releasing the interlock relation of said collar, substantially as set forth.

2. In a wrench, the combination as de- 50  
scribed, of a wrench-bar provided with the fixed jaw formed on one end thereof, and a plurality of collar-engaging recesses formed in the front edge of said wrench-bar, a slid- 55  
ing jaw mounted on said bar with a single bearing-strap, and having a downwardly-ex- tended hub, the rosetted adjusting-screw threaded into the hub of said jaw and jour-  
naled in the collar, the shiftable collar em- 60  
bracing said wrench-bar and internally pro- vided with a lug or member engageable with either of the recesses in the front of said  
wrench-bar, and the endwise-drivable wedge- 65  
shaped key fitting between the collar and back of the wrench-bar.

3. The combination as described, of the wrench-bar provided with a fixed jaw at one end thereof, and having a portion of its length at the other end adapted for a grip or han- 70  
dle, the upper and lower positioning-recesses formed on the front edge of said wrench-bar, the movable jaw having a side-lipped inter-  
nally-threaded hub, arranged to slide on said wrench-bar, the shiftable screw-supporting 75  
collar embracing said wrench-bar and inter- nally provided with means for interlocking with either of said positioning-recesses, the  
jaw-adjusting screw threaded into the hub of 80  
said movable jaw and having a journal ar- ranged through the collar, and a thumb-ro- sette that shoulders against said collar, a con-  
fining-nut on the end of said journal, and the 85  
endwise-drivable tapered key having protu- berant ends with inward shoulders, its wedge- shaped body arranged through the collar-  
opening and fitting against the back of the 90  
wrench-bar and an inclined surface within said collar, for the purposes set forth.

Witness my hand this 23d day of February, 1903.

LORING COES.

Witnesses:

CHAS. H. BURLEIGH,  
ELLA P. BLENUS.