

(No Model.)

J. DU SHANE.
RAPID TRANSIT WRENCH.

No. 331,189.

Patented Nov. 24, 1885.

Fig. 1.

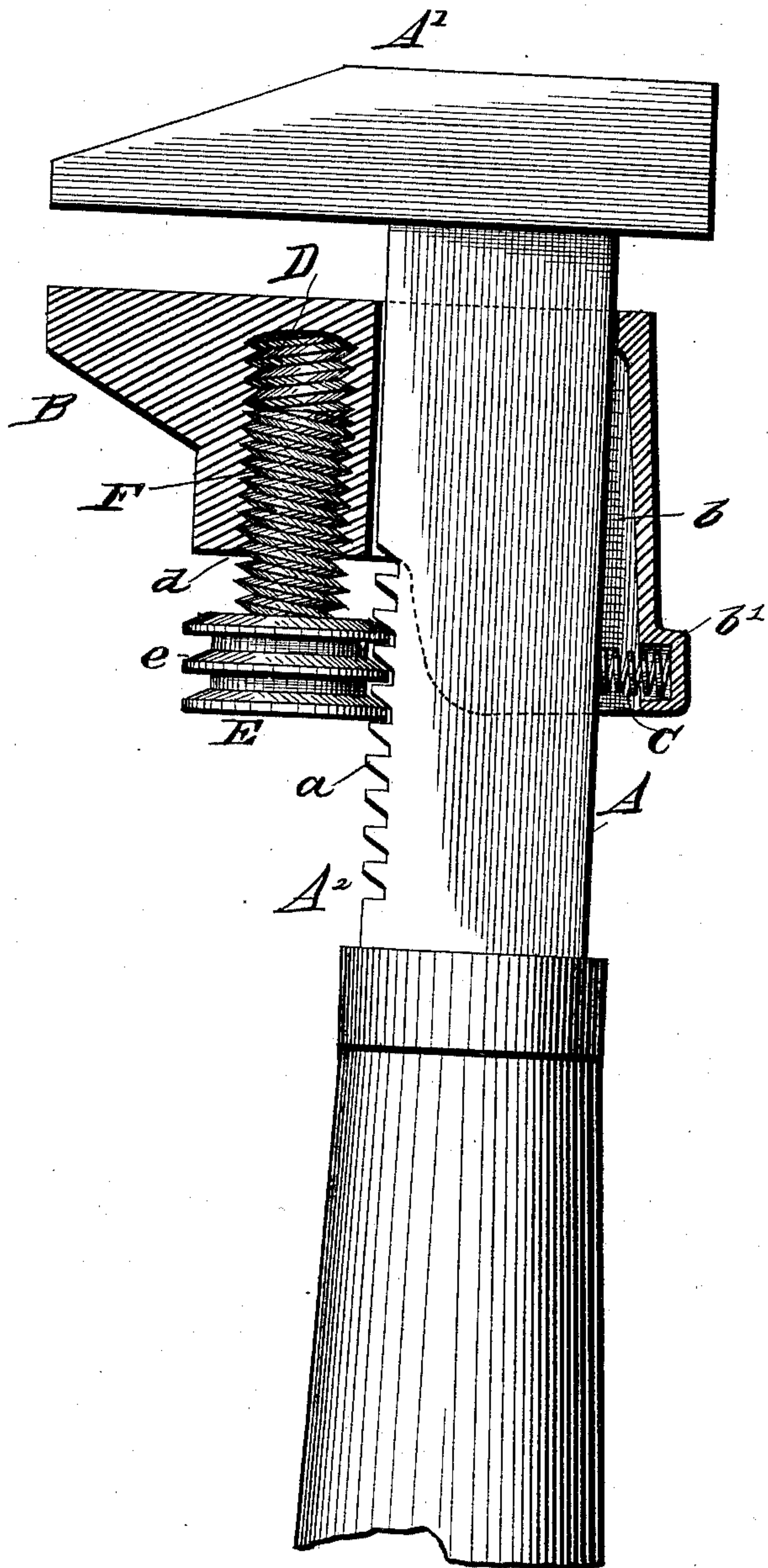
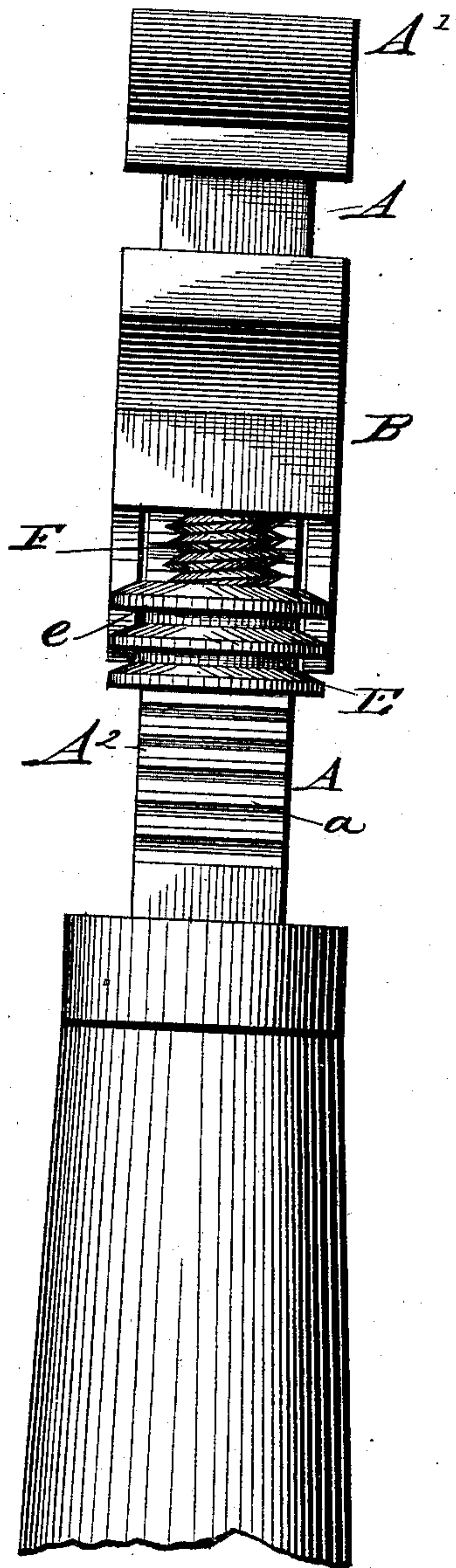


Fig. 2.



WITNESSES

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JAMES DU SHANE, OF SOUTH BEND, INDIANA.

RAPID-TRANSIT WRENCH.

SPECIFICATION forming part of Letters Patent No. 331,189, dated November 24, 1885.

Application filed July 15, 1885. Serial No. 171,707. (No model.)

To all whom it may concern:

Be it known that I, JAMES DU SHANE, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Rapid - Transit Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view, partly in section, of my improved wrench. Fig. 2 is a front view of the same.

This invention relates to improvements in rapid-transit wrenches; and it consists in the construction and novel arrangement of parts hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings by letter, A designates the shaft or shank of the wrench, provided on one end with a proper handle and having secured to the other end the fixed outer jaw, A', of the wrench. The shank A has made on its front edge the rack A², the teeth of which, *a*, run transversely across the edge of the shank at right angles to its axis, for a purpose hereinafter explained.

B is the movable or traveling jaw of the wrench, properly slotted to move on the shank, as shown. The rear side of the slot in which the shank enters is cut away to form a chamber, *b*. The lower end of this chamber has formed on its bottom a circular recess, *b'*, in which rests a small coiled spring, C, that bears against the rear surface of the shank A at right angles thereto. The part of the traveling jaw in front of the shank has running from its lower surface, *d*, the long internally-threaded recess D, parallel to the axis of the shank when the spring C is acting against the latter. The surface *d* stands at right angles to the front edge of the shank at a point nearer to the fixed jaw than the spring C.

E is a cylindrical button having upon its periphery the parallel equidistant threads *e*, adapted to engage between the teeth of the rack A².

F is a threaded stem standing at right angles from the center of the upper surface of the

button E, and engaging in the threaded recess D.

The planes of the threads *e* are at right angles to the axis of the button E, and the teeth of the rack are at right angles across the front surface of the shank. Consequently, when the button is rotated it does not move longitudinally on the shank, but, by means of the engagement of the stem F and recess D, causes the traveling jaw to move longitudinally thereon. The button merely holds the said jaw at any desired position on the shank, all adjustment of the same being caused by the threaded stem.

To move the jaw B rapidly from one position to another, the rear surface of the said jaw is pressed inward against the action of the spring C, and the threads *e* disengaged from between the teeth *a*. The jaw is then slid up or down nearly to the required position, the threads again forced to engage the teeth by the action of the spring C, and the adjustment of the traveling jaw completed by rotating the button E by hand.

Rapid-transit wrenches have been made provided with a nut engaging a rack on the shank controlled by a spring and capable of being disengaged by hand from the rack when necessary to move the traveling jaw. Such construction I do not desire to claim, broadly.

The main advantages of the present construction are as follows: The wrench is made in four compact and simple parts only, counting the spring C, which is small and could easily be replaced if lost. The cylinder F is not a nut or screw and engages the rack at right angles to the line of the axis of the shank, so as to hold more evenly and firmly thereon when the wrench is being used. The threaded stem and recess are never disengaged unless unscrewed from one another, as the cylinder and threaded stem move outward and inward with the traveling jaw. Consequently they cannot engage with a shock so as to rapidly wear out their threads, as happens with many other wrenches of a similar kind.

The wrench may be operated by one hand as follows: Placing the finger on the spring-chamber and pulling down disengages the movable jaw and draws it toward the handle.

Pushing on the outer edge of the button E lifts the same out of engagement, and at the same time shifts the movable jaw toward the fixed jaw.

5 I am aware that wrenches have been made having their shanks perforated, in which perforations a stud on the screw-socket is dropped to adjust the movable jaw, which is rendered further adjustable by the rotation of the screw
10 therein, said screw-socket being governed by a leaf-spring, and such construction I do not claim; but,

Having described my invention, I claim—

15 The combination, in a rapid-transit wrench, of the shank A, having the fixed jaw A' secured to its end, and the rack A² formed on its front edge with teeth of said rack at right angles across said edge, the traveling jaw B,

provided with the chamber b, and spring-recess b', immediately in rear of the shank-slot, 20 and with the threaded recess D in front of said slot, the tooth or flanged button E, engaging with the teeth of the shank but not traveling on the shank thereby, the threaded stem F, having its lower end fixed centrally on the 25 button E, and the coiled spring C in the recess b and acting against the back of the shank, all substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of 30 two witnesses.

JAMES DU SHANE.

Witnesses:

WILLIS A. BUGBEE,
GEO. W. MATTHEWS.