

(No Model.)

D. TRUE.  
CARRIAGE WRENCH.

No. 291,961

Patented Jan. 15, 1884.

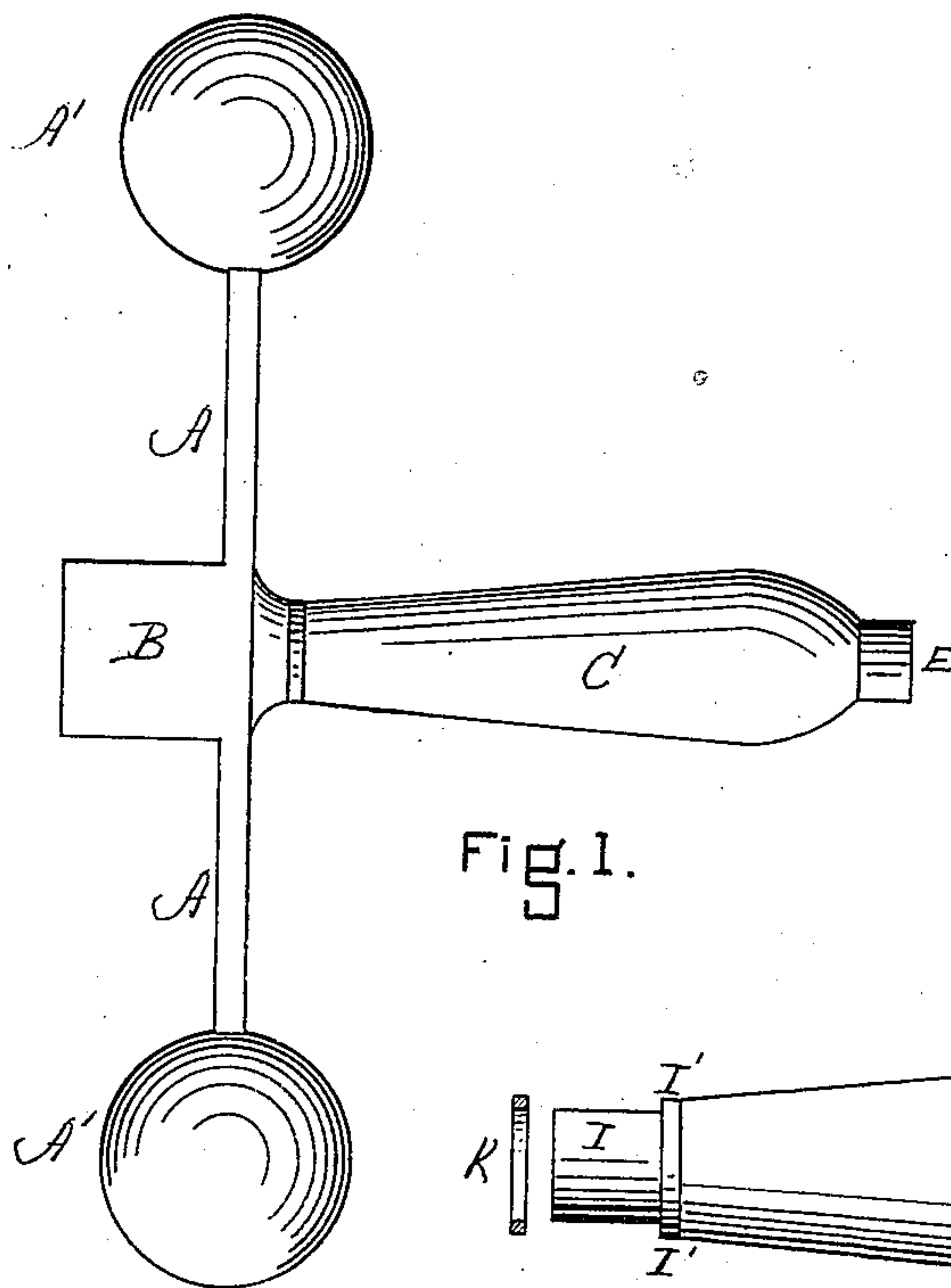


Fig. 1.

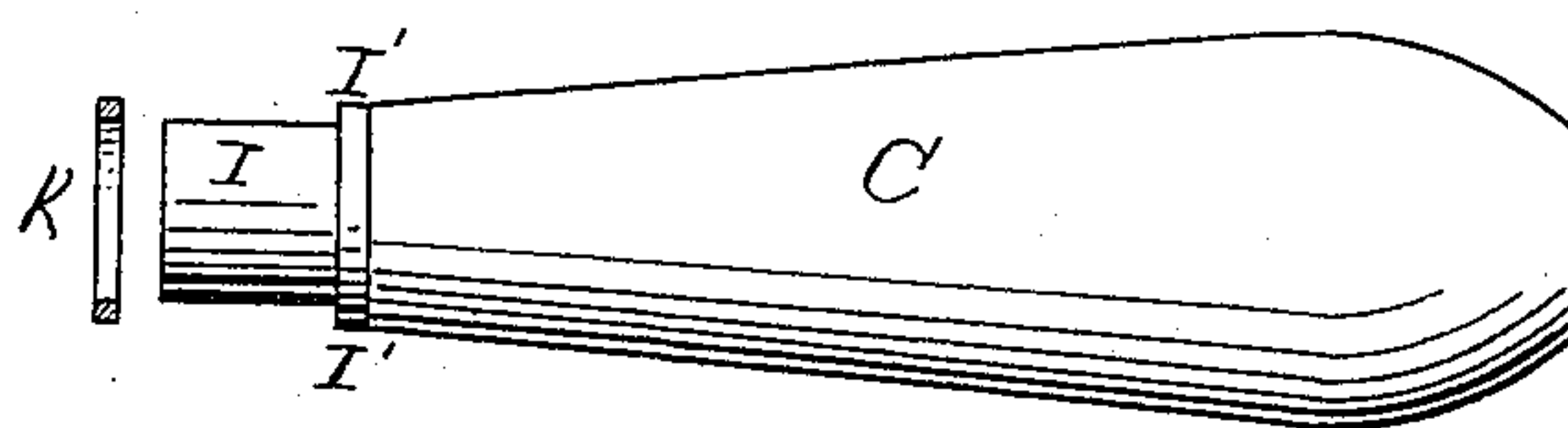


Fig. 3.

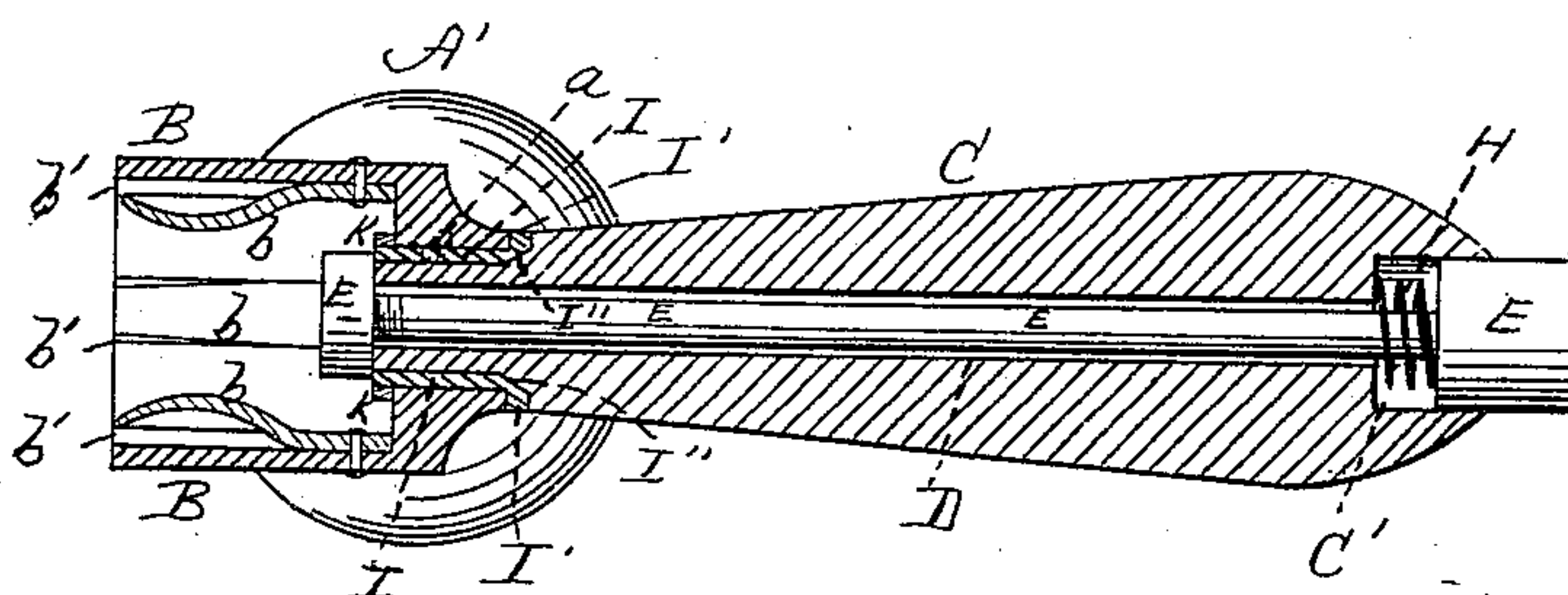


Fig. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

DAVID TRUE, OF SALISBURY, MASSACHUSETTS.

## CARRIAGE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 291,961, dated January 15, 1884.

Application filed July 18, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID TRUE, of Salisbury, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Carriage-Wrenches, of which the following is a specification.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan view of a wrench embodying my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a view of the handle detached.

A is a bar, provided at its ends with weights or balls A', central opening, *a*, and socket or box B, said socket or box being provided with internal springs, *b*, placed in longitudinal grooves *b'* in the sides of the socket, all as described in Letters Patent of the United States numbered 271,549, granted to me January 30, 1883.

C is a handle, counterbored at C', and provided with the central bore or passage, D, for the accommodation of the plunger E, which is constructed substantially as described in the Letters Patent above referred to. A spring, H, of any suitable construction, serves to keep the plunger retracted when it is not in use. The handle C is provided at its inner end with a ferrule, I, preferably metallic, which serves as a bearing for the bar A and socket B, arranged to rotate thereupon by means of the passage *a*. A ring, K, screwed or otherwise suitably secured to the outer end of the ferrule, (or inner end of the handle,) prevents the bar and handle from separation.

To remove a carriage-nut, the socket B is placed over the nut, a slight tap is given to one of the balls A' to start the nut, the balls are whirled to remove it, and the nut is ejected from the socket by means of the plunger E, which then springs back into its normal position.

The handle C is, during this operation, stationary in the hand, the socket rotating on the bearing I. By causing the socket to rotate on the bearing I, instead of providing the long inner rotating tube, lettered E in the Letters Patent above alluded to, there is much saving of friction, a gain in simplicity, and the danger of breakage of said tube obviated.

The ferrule I is preferably, but not necessarily, provided with the flange I' and the bevel I'', by means of which a perfect fit is secured.

The device, although primarily intended as a carriage-wrench, may be applied to nuts, &c., wherever it is found to be useful.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a carriage-wrench, the combination, with the bars A and socket B, of the handle C, provided with the ferrule I, substantially as and for the purpose set forth.

2. In a carriage-wrench, the combination, with the socket for grasping the nut, said socket being provided with suitable means for rotating it, of the handle C, provided with the ferrule I, said ferrule constituting a bearing for said socket or bar, substantially as and for the purpose described.

3. In a carriage-wrench, the combination, with the socket B and handle C, of the ferrule I, provided with the annular flange I', substantially as and for the purpose set forth.

4. In a carriage-wrench, the combination of the socket B, bars A, handle C, provided with the ferrule I and ring K, plunger E, and spring H, all substantially as and for the purpose specified.

DAVID TRUE.

Witnesses:

EDWARD H. ROWELL,  
JAMES F. HUNTER.