

(No Model.)

R. S. CARR.
WRENCH.

No. 333,108.

Patented Dec. 29, 1885.

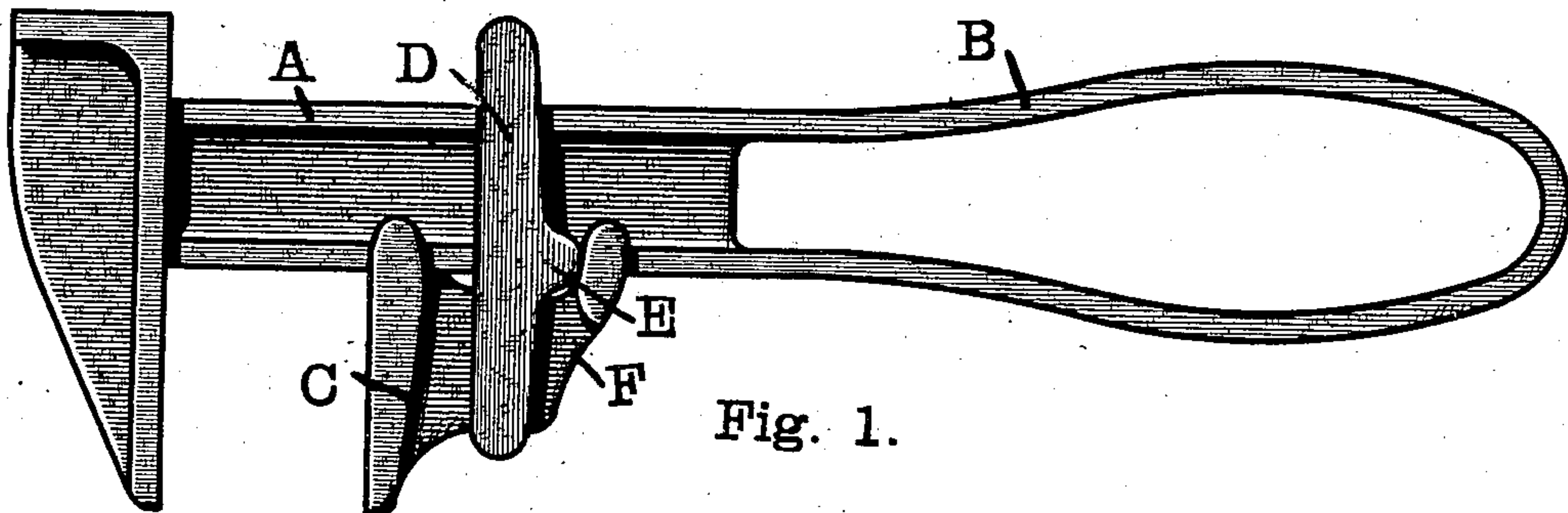


Fig. 1.

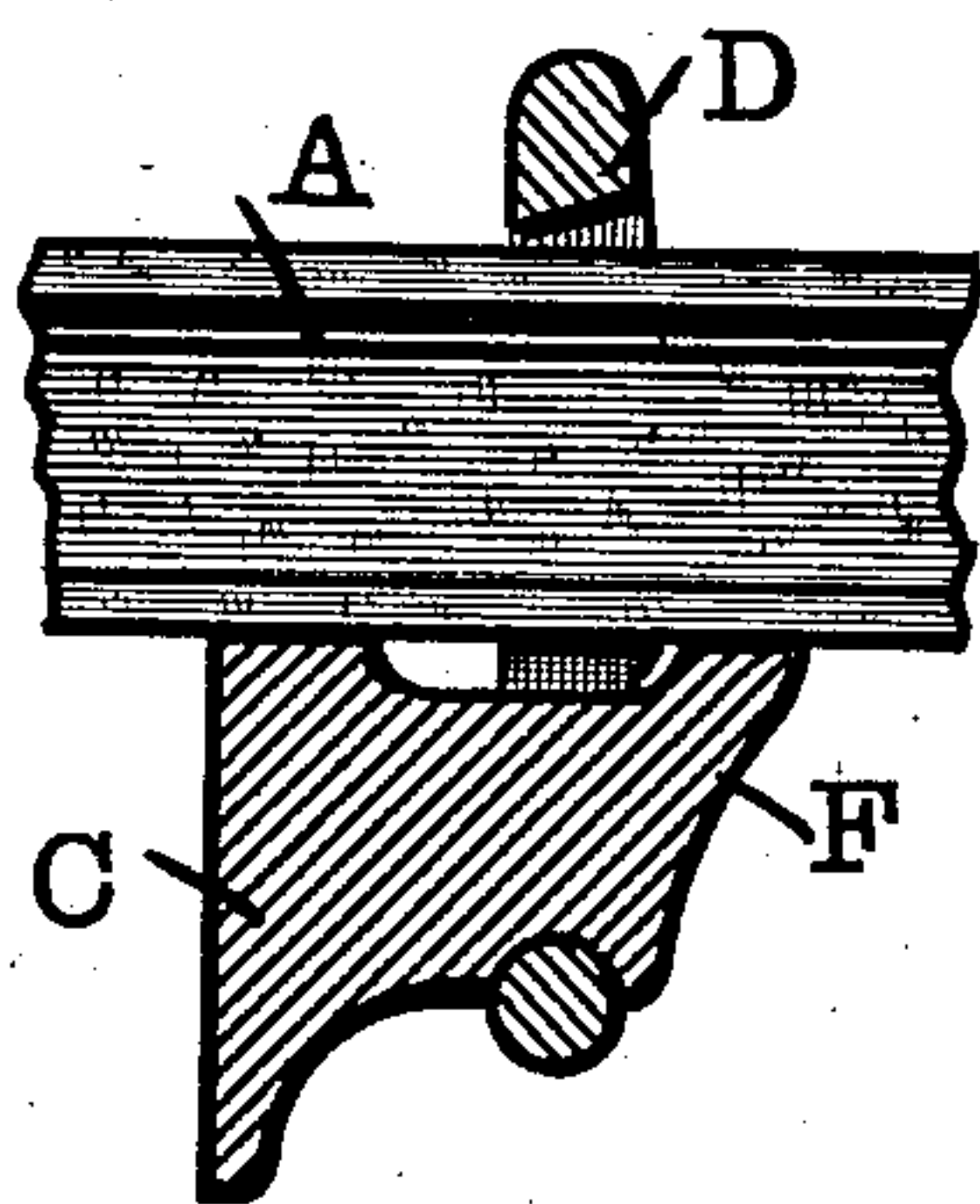


Fig. 2.

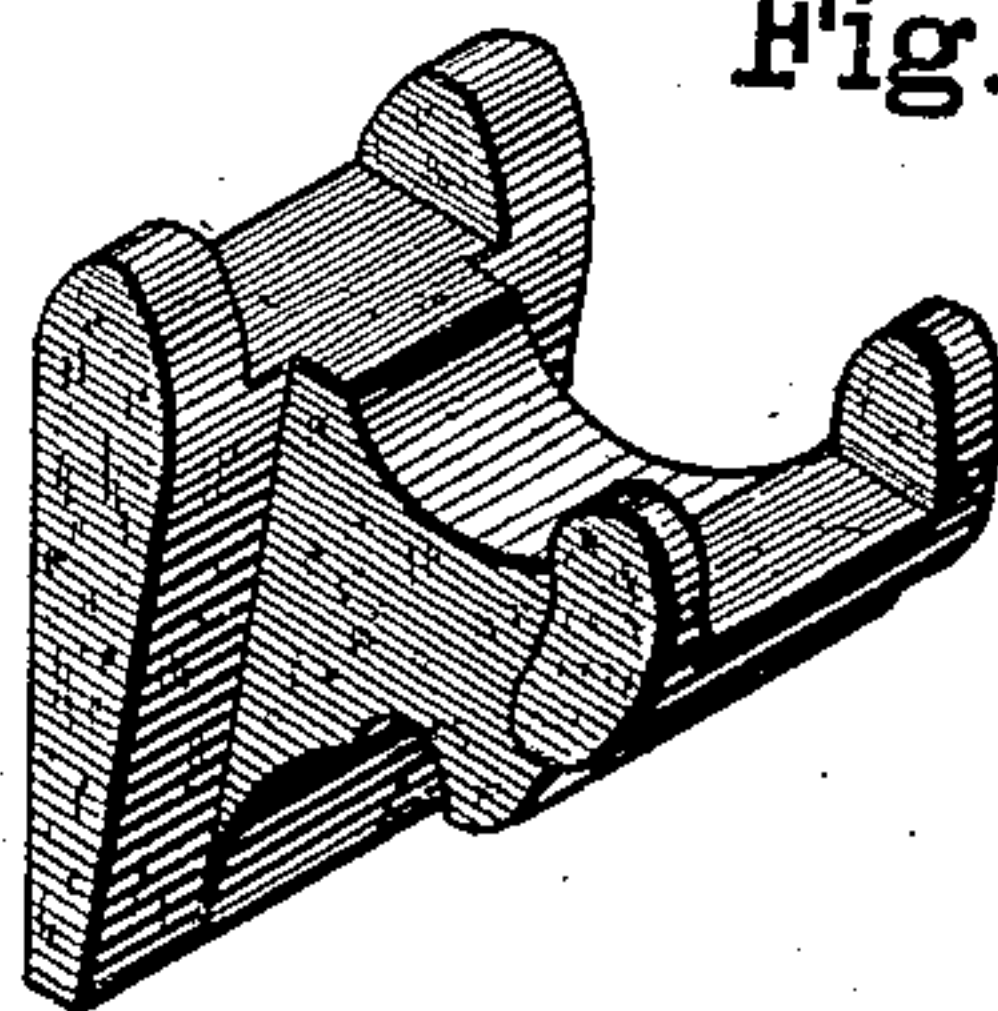


Fig. 5.

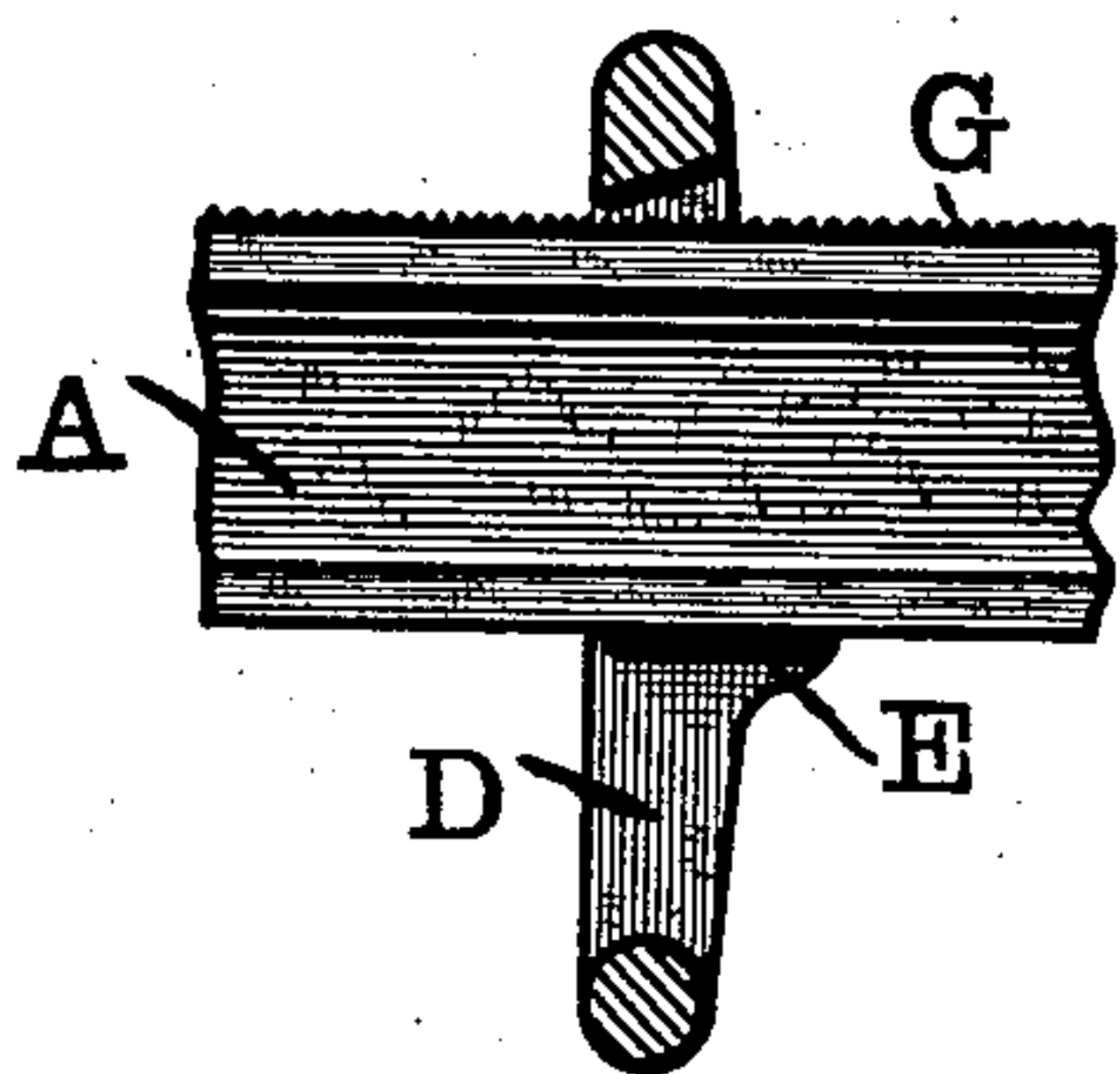


Fig. 3.

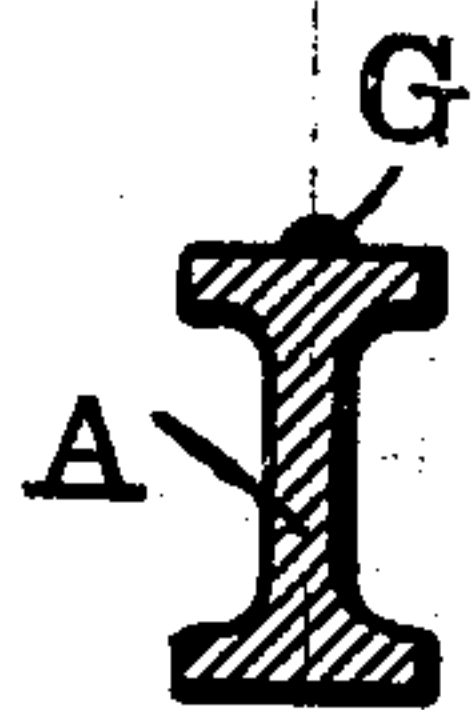


Fig. 4.

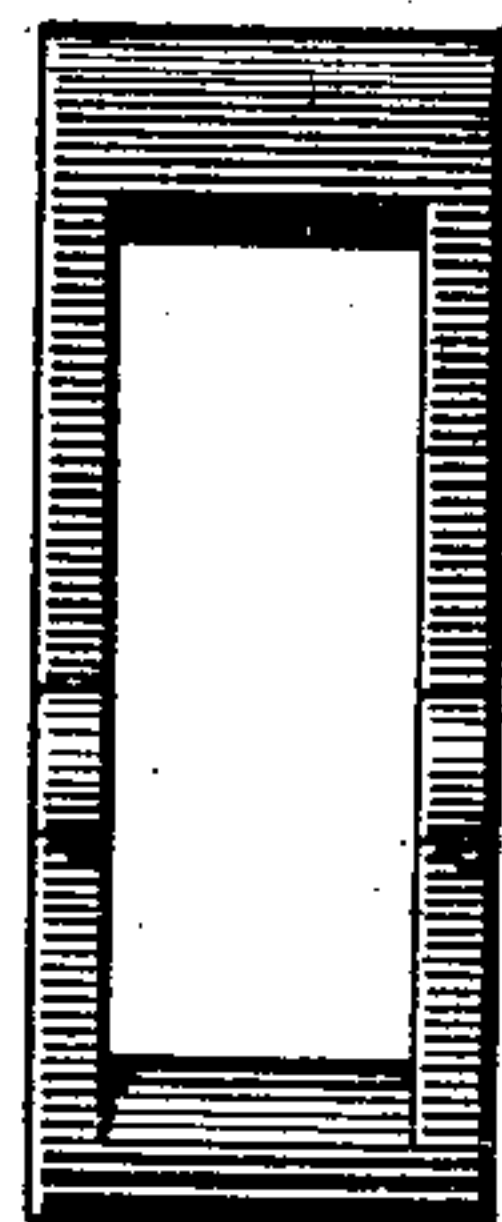


Fig. 6.

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SPECIFICATION forming part of Letters Patent No. 333,108, dated December 29, 1885.

Application filed October 12, 1885. Serial No. 179,637. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. CARR, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to adjustable wrenches, and will be understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side view of a wrench embodying my improvements; Fig. 2, a side view of a portion of the wrench-bar, with the movable jaw and bridle shown in section; Fig. 3, a side view of a portion of the wrench-bar, with the bridle shown in section, the view illustrating a serrated construction of wrench-bar; Fig. 4, a transverse section of the wrench-bar, illustrated as provided with a serrated top rib; Fig. 5, a perspective view of the movable jaw, and Fig. 6 a rear face view of the bridle.

In the drawings, A indicates the wrench-bar, of substantially rectangular cross-section, having the fixed jaw of the wrench formed integrally upon one end; B, an expanded open prolongation of the wrench-bar, forming the handle of the wrench; C, the movable jaw fitted to slide along the lower edge of the wrench-bar, and prevented from side displacement by upwardly-projecting ears engaging the sides of the bar; D, a rectangular bridle surrounding the wrench-bar, normally holding the movable jaw in position, but not tightly against the wrench-bar; and E, lugs projecting from the rear of the bridle and engaging against the rear ears of the movable jaw when the bridle is in a plane substantially at right angles to the axis of the bar of the wrench.

The lower cross-bar of the bridle engages a journal-notch in the bottom of the movable jaw.

Viewing the parts as shown in Fig. 1, and understanding that the length of the bridle D is such as not to normally draw the movable jaw tightly up against the wrench-bar, it will be readily comprehended that if the handle of the wrench be grasped and the thumb placed upon the movable jaw at the part marked F the movable jaw can be moved toward the fixed jaw, and that the bridle will be pushed upward also by reason of the engagement at the lugs E. If, however, instead of pushing the movable jaw toward the fixed jaw, it be pulled

toward the handle, the upper portion of the bridle will remain stationary upon the bar, while the lower portion is carried rearwardly. The effect of this is to place the bridle at a slight angle to the wrench-bar, thus causing the bridle to practically lessen its length and draw the movable jaw firmly up against the wrench-bar, thus preventing it from slipping. The greater the rearward pressure upon the movable jaw, as in turning a nut, the greater will be the tendency of the bridle to bind the parts firmly together, the bite thus formed preventing all slipping.

While force applied rearwardly to the movable jaw will not move it upon the bar, the jaw and bar may be together moved with ease by bearing upon the bridle with a finger at any point above the ears E. The movable jaw may thus be adjusted readily to any position desired, and retain that position against any rearwardly-acting force applied to the movable jaw.

The grip of the movable parts upon the wrench-bar is purely one of friction; but the grip is amply sufficient for all ordinary purposes. The top of the wrench-bar may, however, if desired, be provided with a series of fine serrations, as indicated at G in Figs. 3 and 4, the serrations being preferably formed in a narrow rib centrally along the bar, the rib form permitting the fine serrations to be neatly cast, while still preserving a proper thickness for the wrench-bar.

The wrench-bar is integrally formed with the fixed jaw and handle, and is cast of malleable iron or formed of other malleable material. The handle portion has an open form, as illustrated; but in the manufacture of the wrench the handle is left parallel or without its swell until after the bridle and movable jaw have been put in place, after which the handle is swelled outward by drifting or analogous process, thus giving a proper form to the handle and preventing the displacement of the movable parts.

In assembling the parts the bridle is turned horizontally and slipped over the rear of the movable jaw, after which the bridle is revolved to bring it into proper relationship, the portion of the movable jaw just forward of its rear ears being in necked form, to permit the described rotation of the bridle. These parts

are then applied over the wrench-bar in the manner before described.

I claim as my invention—

1. In a wrench, the combination of a parallel wrench-bar provided with a handle and a fixed jaw, a movable jaw fitted to slide along the wrench-bar, and a bridle encircling the bar and movable jaw, and having its lower end articulated to the movable jaw in the manner described, whereby when the movable jaw is moved from the fixed jaw the bridle will be tipped and will clasp the parts, as described.

2. In a wrench, the combination of a wrench-bar provided with a handle and a fixed jaw, a movable jaw engaging against the lower edge of the wrench-bar, and having ears engaging the sides of the wrench-bar, and a rectangular bridle engaging around the wrench-bar and the movable jaw, as described, and provided with intermediate portions adapted to engage the rearward ears of the movable jaw when the same is moved along the wrench-bar toward the fixed jaw of the wrench, substantially as described.

3. In a wrench, the combination of a wrench-bar provided with a fixed jaw and a handle, a rectangular bridle surrounding the wrench-bar, and a movable jaw held to the wrench-bar by the bridle, and having a necked portion, as described, for permitting the turning of the bridle when the same is being applied to the movable jaw, substantially as and for the purposes described.

4. In a wrench, the combination of a parallel wrench-bar provided with a fixed jaw, a handle, and a centrally-disposed serrated rib upon its back, a movable jaw upon the wrench-bar, and a bridle articulated to the movable jaw, as described, and adapted to clamp the movable jaw to the wrench-bar, substantially as and for the purposes described.

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