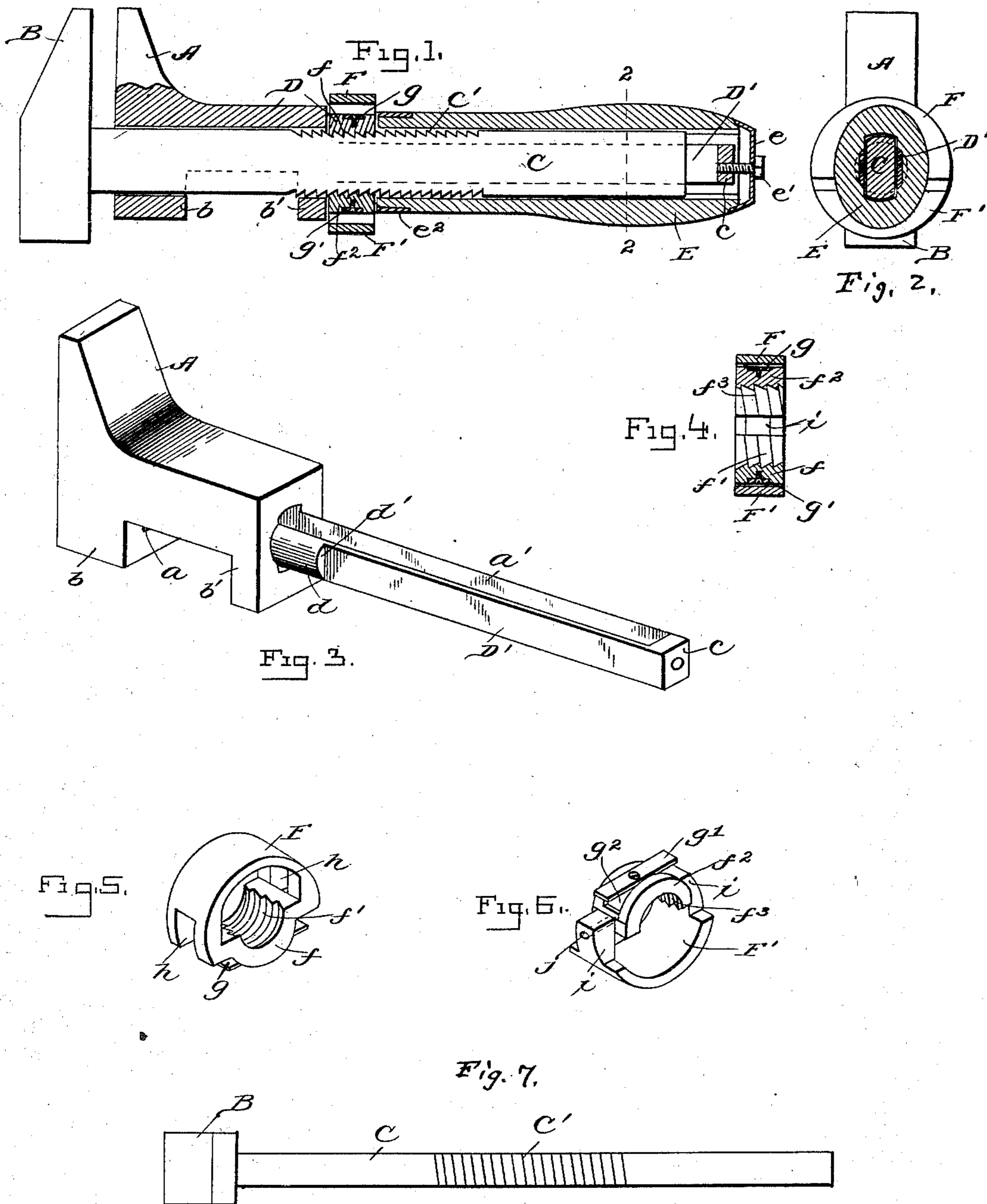


(No Model.)

H. V. GORMLEY.
WRENCH.

No. 502,514.

Patented Aug. 1, 1893.



witnesses:
J. M. Fowler Jr.
Alvan Macaulay.

Inventor:
H. V. Gormley
By
Chas B. Mann
Atty.

UNITED STATES PATENT OFFICE.

HARRY V. GORMLEY, OF NORFOLK, VIRGINIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 502,514, dated August 1, 1893.

Application filed May 17, 1893. Serial No. 474,593. (No model.)

To all whom it may concern:

Be it known that I, HARRY V. GORMLEY, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to an improvement in wrenches and has for its object to provide a device in which the movable jaw may be readily adjusted to or from the fixed jaw without the necessity of running the length of the screw to obtain the desired position.

In the drawings, Figure 1, shows a vertical longitudinal section of the wrench. Fig. 2 shows a section on line 2—2 Fig. 1. Fig. 3, shows a perspective detail view of the fixed jaw, and the slotted casing secured thereto. Fig. 4, shows a detail section of the sectional nut. Fig. 5, shows a detail perspective of one member of the said sectional nut. Fig. 6, shows a detail perspective of the other member of the sectional nut. Fig. 7, shows a plan view of the sliding-jaw, and the stem, to one end of which it is secured.

Referring to the drawings, it will be seen that the device consists of a fixed jaw, A, and a movable jaw, B. The fixed jaw, A, has a shank, D, and a longitudinal perforation, *a*, extends through the said jaw and shank. A casing, D', extends from the end of the shank, D, and has a longitudinal slot, *a'*, diametrically through it. The end of said slot registers with and forms a continuation of the slot, *a*, in the jaw, A, and shank, D. That end of the casing, D', which adjoins the shank, D, has at its sides a rounded external boss, *d*, to form a bearing on which the sectional nut, hereinafter described, turns. A stationary handle, E, is fitted over the casing, D', and extends from the bearing, *d*, to or beyond the end of the casing. A cap, *e*, covers the end of the handle and a set-screw, *e'*, passes through the cap into the end of the casing, and thus secures the handle in position.

The movable or sliding jaw, B, is secured to one end of a stem, C, which is provided with four flat slides, where it slides through the guide lops, *b*, *b'*, on the shank and with screw-threads, C', where it slides through the slot, *a'*, of the casing. The threads of the screw project through the said slot. It will be

noticed by reference to Fig. 2, that the stem C, is oblong in cross-section, and that the screw-threads are cut on those two opposite sides only which when the stem is in position within the casing, D', project through the slot, *a'*, in said casing. The bearing, *d*, is of such a size that the threads, C', of the stem, C, projecting through the slot in the casing extend beyond the circumference of said bearing, as may be seen in Fig. 2, and the sectional nut, comprising the members, F, and, F', is revolvable on said bearing and the internal screw-threads, *f*, *f'*, of said sectional nuts engage the projecting screw-threads, C', on the stem, C.

The sectional nut is made in two parts shown in Figs. 5 and 6. The outer section comprises the semi-circular rim-piece, F, and the half nut, *f*, having screw threads, *f'*, is attached at its diametrically opposite straight ends, to the diametrically opposite straight ends of the rim-piece, F. The concave side of the half-nut is toward the concave side of the rim piece. A flat spring, *g*, is secured between its ends to the convex side of the half-nut, *f*, and is adapted, when its free ends are bent down, to lie within a recess formed in said half-nut. Two diametrically opposite slots, *h*, are in the rim-piece F, and extend partly around the same, in opposite directions as may be seen from Fig. 5. The inner section comprises also a circular rim piece, F' from the opposite straight flat ends of which project extensions, *i*, which externally conform to the curve of the rim-piece F', and are of such size as to fit and slide in the slots, *h*, in the outer section. A half-nut, *f*², having screw-threads *f*³, and corresponding to half nut, *f*, is attached at diametrically opposite points to the extensions, *i*. In the present instance it is attached by means of screws, *j*, though it may be done otherwise, and in like manner to the outer section, the concave side of the half nut, faces the concave side of the rim piece. The half nut, *f'*, is provided on its exterior side with a flat spring, *g'*, and recess, *g*², in like manner to the other half-nut, *f*.

The parts of the sectional nut are assembled by placing the half nut, *f*, of one section within the space formed between the rim, F, and the half nut, *f*², of the other section,—

the two half nuts being placed in such position with respect to each other, as to form together, a complete split-nut. The rim section, F' , is placed on the convex side of the half nut, f , and the extensions, i , will fit within the slots, h , of the rim-section, F . The screws, j , are passed through the extensions i , into the half-nut to secure them in the relative position shown in Fig. 6. The ends of the spring will abut against the concave side of the rim-piece, F' , and in like manner the spring, g' , will abut against the concave side of the rim piece, F . It can be seen that the constant tendency of the said springs is to force the two rim pieces apart and to press the two half nuts toward each other. To separate the two half nuts, it is only necessary to press the two rim pieces together,—in which case the springs, g, g' , are bent in a curve and lie in their respective recesses, flush with the convex surface of the half-nut to which they are respectively secured.

In its assembled condition the sectional nut is mounted on the bearing, d , by being slipped over and passed along the shank, D' . The rim pieces, F, F' , are now compressed which as above explained spreads the split-nut, and releases it from the threads, C' , and permits the shank, C , to be passed longitudinally through the slot in the casing, D' . On releasing the rim pieces the springs, g, g' , will press the screw-threads in the half nuts into engagement with the screw-threads, C' , upon the shank, C . The handle, E , is next fitted on the casing; the cap, e , is placed on the handle; and the screw, e' , passed through the cap into the end, c , of said casing to hold the handle in position. A collar, e^2 , is on the other end of the handle and the sectional nut turns on the bearing, d , between this end of the handle and the adjacent end of the shank, D . The screw-threads of the sectional nut normally engage those of the shank and in this position the movable jaw may be adjusted to or from the fixed jaw by turning the said sectional nut,—but when it is desired to quickly slide the movable jaw to any desired position, it may be done by pressing the rim pieces toward each other, thus releasing the engagement of the half-nuts with the screw-threads of the shank, whereupon the said shank may be slid to approximately the desired position and on releasing the said rim-pieces and thereby allowing the half-nuts to again engage the said shank,—the final and accurate adjust-

ment may be obtained by turning said sectional nut.

When it is desired to press together the members of the sectional nut and thereby to release the engagements of the half-nuts with the screw-threads on the stem C , the said sectional nut is given a quarter-turn in either direction from the position illustrated in Figs. 1, and 2, and while in this position the members are pressed together and the screw-threads on the stem released.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a wrench the combination of the fixed jaw having the handle attached thereto; a stem sliding through said fixed jaw, and bearing the movable jaw, and having a portion of its length screw-threaded; and a spring, sectional-nut revoluble on a bearing on the fixed jaw and normally engaging said screw-threads on the stem, but adapted to be thrown out of such engagement.

2. In a wrench the combination of the fixed jaw; a handle; a bearing having a longitudinal slot and located between the fixed jaw and handle; a stem sliding through a continuous perforation in the fixed jaw, bearing and handle, and having screw-threads which project through the slot in the bearing; and a sectional-nut revoluble on the bearing and around the stem, and engaging the said screw-threads on the stem, as and for the purpose set forth.

3. In a wrench the combination of the fixed jaw; the casing attached thereto; the handle inclosing and secured to the casing; a bearing formed at one end of the casing and having a longitudinal slot; a stem bearing the sliding jaw and movable in a straight, continuous perforation through the fixed jaw, bearing, and casing; and having screw-threads which project through the slot in the bearing and a spring, sectional nut, engaging the screw-thread on the stem and adapted to turn on said bearing, the said nut comprising two intersliding members each bearing a half nut, substantially as described and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY V. GORMLEY.

Witnesses:

W. W. WEBSTER,
WM. LOWREY.