

No. 685,544.

Patented Oct. 29, 1901.

F. WEIMAR.
WRENCH.

(Application filed Jan. 5, 1901.)

(No Model.)

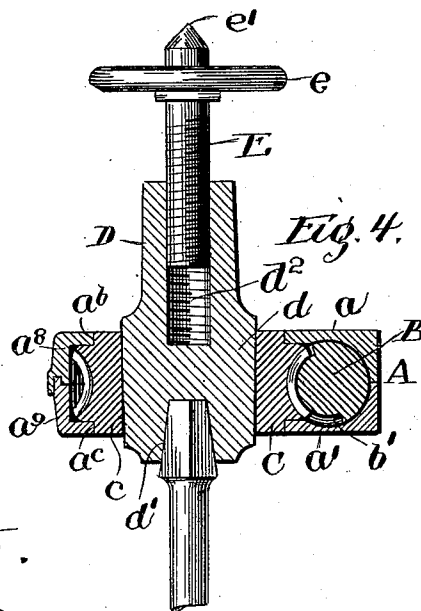
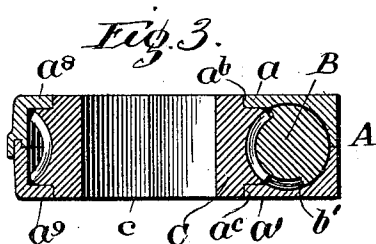
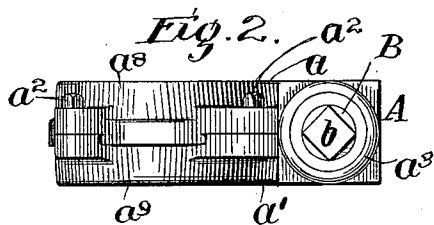
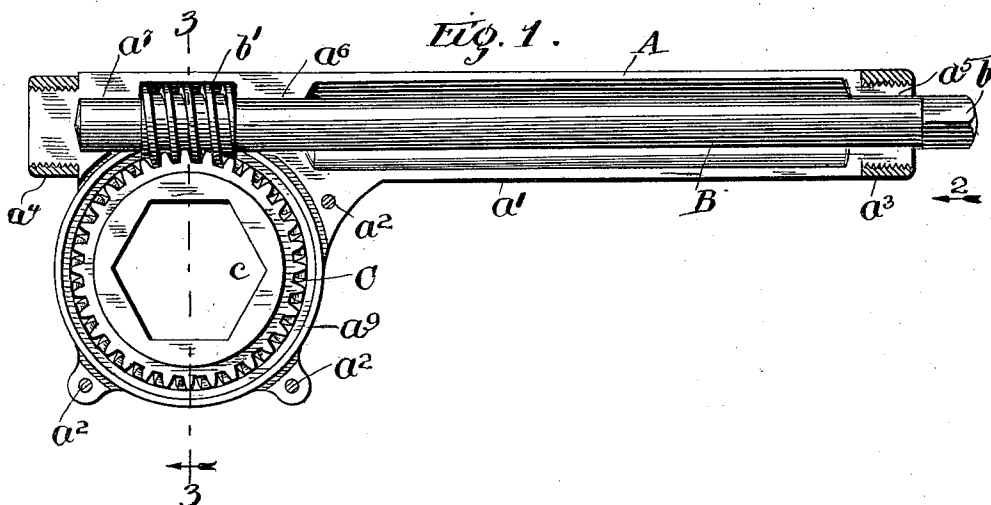
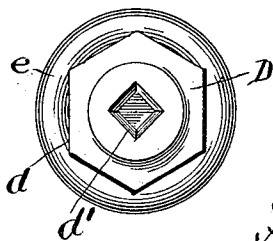


Fig. 5.



Witnesses:

Chas O. Shervey
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Inventor:

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UNITED STATES PATENT OFFICE.

FRED WEIMAR, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
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WRENCH.

SPECIFICATION forming part of Letters Patent No. 685,544, dated October 29, 1901.

Application filed January 5, 1901. Serial No. 42,206. (No model.)

To all whom it may concern:

Be it known that I, FRED WEIMAR, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to certain improvements in wrenches designed at the same time to make a more efficient and handy wrench and to also adapt the same for use in connection with other mechanism to furnish power for the operation of the wrench. To such end the invention consists in certain novel characteristics, to be hereinafter described and claimed.

In the drawings, Figure 1 is a longitudinal median section. Fig. 2 is an end view looking in the direction of the arrow 2 of Fig. 1. Fig. 3 is a transverse section in line 3 3 of Fig. 1. Fig. 4 is a similar section with a chuck and feeding device added, and Fig. 5 is an under plan of the chuck.

Referring to the drawings, A is a casing, preferably made up of two lateral halves a^1 , secured together by means of screws a^2 and threaded ferrules a^3 a^4 . In the two halves of the case are provided bearings a^5 a^6 a^7 , in which is journaled a shaft B, provided with a square end b , projecting from the case, and within the case with a worm b' . The two parts of the case are provided with lateral extensions a^8 a^9 , having circular bearings a^{10} a^{11} , in which is journaled a worm-gear C, meshing with the worm b' and provided with a non-circular hole c , adapted to fit over the bolt or tool to be used and also to hold suitable dies or chucks to fit other sizes of bolts or tools. The friction of the worm and gear will prevent the rotation of the gear when the wrench is used as a hand-wrench, and the angular position of the hole in the gear may be varied to great advantage in working in places where there is not sufficient room for a free swinging of the handle. Where suitable driving machinery is present, the same may be secured to the shaft B and the nut or tool driven automatically without swinging the wrench by hand.

In Fig. 4 I have shown a suitable die or

chuck D to hold one form of drill, said chuck being provided with a portion d , fitted to the opening in the spiral gear, a socket d' , fitted to the head of the tool, and a screw-threaded socket d'' , in which is threaded a pin E, provided with a hand-wheel e and a preferably sharp end e' to bear against a suitable abutment and enable the tool to be fed to its work.

I do not confine my invention to the exact details of construction, inasmuch as the same are to a certain extent immaterial.

I claim as new and desire to secure by Letters Patent—

1. In a wrench, the combination with a suitable casing having a projection adapted for use as a handle, of a gear revolubly mounted in the casing and provided with an axial non-circular socket, and a power-transmitting shaft revolubly mounted in said projection and provided with a worm engaging said gear; whereby the gear is prevented from rotating in its bearings when the projection is used as a wrench-handle but is rotated therein by rotary force applied to the shaft.

2. In a wrench, the combination with a suitable casing of a gear revolubly mounted in said casing and having an axial recess adapted to receive a nut, or the like, to be rotated, and a shaft revolubly mounted in said casing to project at one end therefrom, provided with a worm engaging said gear, and having its projecting end adapted to be engaged by driving means.

3. In a wrench, the combination with a gear having an axial recess to receive a nut or the like, of a shaft provided with a worm engaging said gear and having one end adapted to be engaged by driving means, and a casing furnishing revoluble bearings for said gear and shaft and leaving said recess exposed.

4. In a wrench, the combination with a gear having an axial recess to receive a nut or the like, of a shaft having a worm engaging said gear and an end portion adapted to be engaged by driving means, of a two-part casing inclosing and forming bearings for said gear and shaft and separable in their plane.

5. In a wrench, the combination with a gear provided with an axial recess to receive a nut or the like, of a shaft provided with a worm

engaging said gear and with an end portion adapted to be engaged by driving means, and a casing inclosing the gear, forming bearings therefor, and having a handle-like projecting sleeve to inclose and revolubly support said shaft.

6. In a wrench, the combination with suitable casing, of a gear journaled in the casing and having a non-circular axial opening, a shaft also journaled in the casing, provided with a worm engaging the gear, and having a projecting end portion adapted to receive driving means, a die fitting the opening in the

gear and having in one end a socket, and a screw working in the opposite end of the die and adapted to react against a suitable abutment and force the apparatus forward.

In witness whereof I have hereunto set my hand, at Chicago, in the county of Cook and State of Illinois, this 22d day of December, A. D. 1900.

FRED WEIMAR.

Witnesses:

CHAS. O. SHERVEY,
S. BLISS.