No. 763,745. PATENTED JUNE 28, 1904.

A. L. GHEEN.

COMPOUND TOOL.

APPLICATION FILED OCT. 14, 1903.

NO MODEL.

Fig. 1.

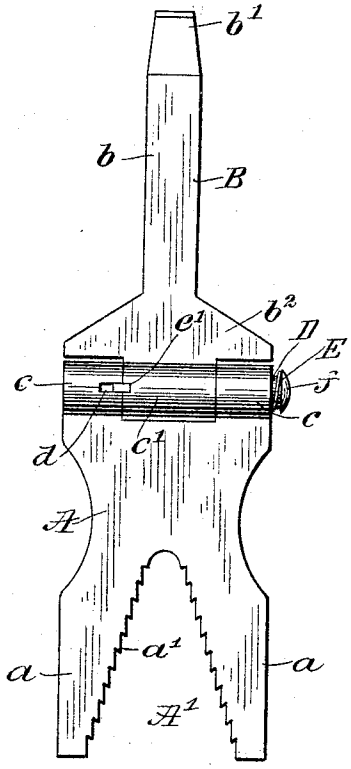


Fig. 2.

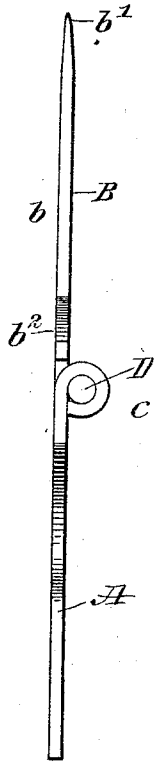
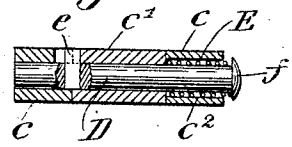


Fig. 3.



WITNESSES:

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No. 763,745. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

AMNER LYCURGUS GHEEN, OF CREEDE, COLORADO, ASSIGNOR TO HIMSELF AND JOHN M. OSTRUM, OF CREEDE, COLORADO.

COMPOUND TOOL.

SPECIFICATION forming part of Letters Patent No. 763,745, dated June 28, 1904.

Application filed October 14, 1903. Serial No. 176,983. No model.

To all whom it may concern:

Be it known that I, AMNER LYCURGUS GHEEN, a citizen of the United States, and a resident of Creede, in the county of Mineral and State of Colorado, have invented a new and Improved Compound Tool, of which the following is a full, clear, and exact description.

My invention relates to improvements in compound tools; and the object that I have in view is the provision of a combined screw-driver and nut-wrench wherein the parts may be folded compactly, so as to be carried conveniently in the pocket, provision being made for locking the members in their unfolded operative positions, so that the tool can be used to good advantage.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the actual scope of the invention will be defined by the annexed claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a compound tool embodying my invention and showing the parts adjusted to their opened operative positions. Fig. 2 is an edge view of the device represented by Fig. 1, and Fig. 3 is a horizontal section taken through the hinged connection and locking device between the members of the improved tool.

My improved tool consists of the members A B, connected pivotally at their adjacent ends and provided with a locking device which is housed or contained in the pivotal connection. The member A is represented in the form of a wrench or spanner, whereas the member B is made as a screw-driver.

In the particular embodiment of the invention shown by the drawings the member A is provided with a tapering slot or opening A′, which bifurcates said member for a part of its length, and thereby produces a pair of co-operating jaws *a*. The inner edges of the jaws are inclined in converging relation, and they are provided with teeth or serrations *a′*, whereby the jaws of the wrench member are made to engage frictionally with work of different sizes. The screw-driver member B of the implement consists of a narrow shank *b*, having a beveled and pointed end *b′*, and the other end of this shank *b* is formed with an enlarged head b^2.

The wrench member A is provided at its inner end with alined eyes *c*, which are made preferably by bending the metal of said wrench member upon itself, said eyes being spaced a suitable distance from each other to receive a complemental eye *c′* on the head b^2 of the screw-driver member B. One of the eyes *c* of the wrench member A is provided with a notch *d*, while the other eye *c′* of said member is provided with a chamber or bore of greater diameter than either of the eyes *c c′*, as at c^2 in Fig. 3. The eyes *c c′* are disposed in axial alinement for the accommodation of a combined pintle and locking-bolt D, the latter passing loosely through said alined eyes and serving to connect the members A B pivotally one to the other. This bolt D is provided with one or more locking projections *e*, passed through and arranged to play in a notch *e′* in the eye *c′*, forming a part of the screw-driver member B. Said bolt is furnished at one end with a rounded head *f*, which serves as a push-piece for the operation of the bolt D, and around this bolt is fitted loosely a coiled spring E, the same being housed in the chamber c^2 of one eye *c* and arranged to act at its respective ends against the head *f* and the shoulder formed by the edge portion of the eye *c′* on the member B. The spring acts on the bolt to normally hold the locking projection *e* in engagement with one of a series of notches *e′*, provided in the eye *c′* of the screw-driver member B, and this locking projection of the bolt serves to hold the members A B rigidly in their adjusted positions by reason of the fact that the same is partly received into the notch *d* of that one of the said eyes *c* hereinbefore mentioned.

The members of the compound tool member may be folded compactly one upon the other, so as to reduce the size of the tool and allow it to be carried easily in the pocket.

With the parts adjusted to their opened operative positions, as in Figs. 1 and 2, the bolt D may be pressed inwardly against the energy of the spring E for the purpose of moving the locking projection *e* all the way into the notch *d* and releasing it from engagement with one of the notches *e'*, after which the member B may be folded upon the member A. If the parts are folded together and it is desired to open the tool for use, the pin or bolt should be again pressed inwardly to withdraw the locking projection from one of the notches *e'*, whereupon after the tool is unfolded the spring E impels the bolt outwardly for the locking projection to engage the two members as before. By providing a series of notches *e'* in the eye *e* of the member B the parts of the compound tool may be locked in either of a series of adjusted positions, and this is quite advantageous because the wrench of the screw-driver may be operated in confined spaces to good advantage for the purpose of tightening or loosening screws, nuts, and other parts of machinery.

The tool may be made in any size necessary or desirable for the use to which it is to be applied.

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

The combination in a compound tool, of two flat tool members, one having its inoperative end bent into two spaced alined eyes, one of said eyes being provided with a notch at its inner end, and the other member having its inoperative end bent into a single eye adapted for insertion between the alined eyes of the first-mentioned member and having a notch adapted to register with the first-mentioned notch, a pivot-bolt slidably mounted within the eyes of the two tool members and having a laterally-projecting lug normally engaging the notches in the eyes of both tool members, and a spring disposed within one of the eyes of the first-mentioned tool member and engaging the pivot-bolt to hold the lug thereon in engagement with the registering notches in the eyes of both members.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AMNER LYCURGUS GHEEN.

Witnesses:
M. J. MOSES,
GEO. A. MARTIN.