H. G. GODLEY.
WRENCH.
APPLICATION FILED OCT. 31, 1910.

1,007,938. Patented Nov. 7, 1911.

FIG. 1

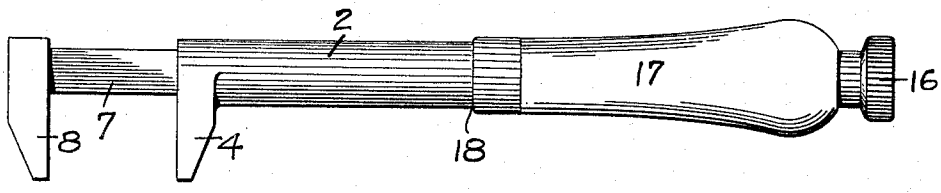


FIG. 2

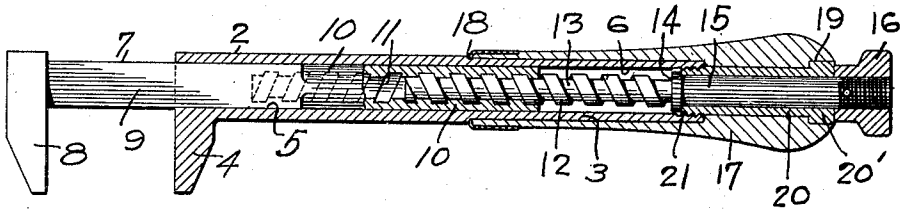


FIG. 3

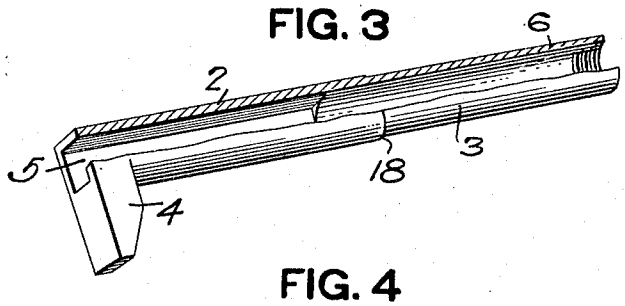
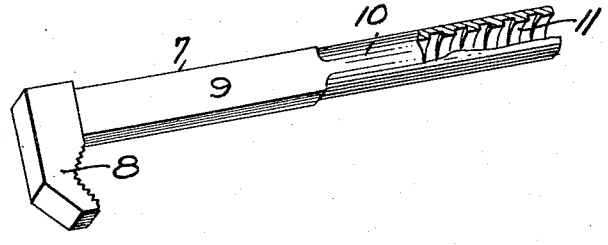


FIG. 4



WITNESSES.
J. R. Keller
John F. Hill.

INVENTOR.
Harry G. Godley
by
Kay & Potter, Attys
by F. Warren Kay

UNITED STATES PATENT OFFICE.

HARRY G. GODLEY, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF NINE-TENTHS TO JOHN M. HANSEN, OF PITTSBURGH, PENNSYLVANIA.

WRENCH.

1,007,938. Specification of Letters Patent. Patented Nov. 7, 1911.

Application filed October 31, 1910. Serial No. 590,033.

To all whom it may concern:

Be it known that I, HARRY G. GODLEY, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wrenches; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to wrenches, its object being to provide a compact, strong wrench adapted to take hold on nuts of considerable size relative to that of the wrench, and one in which the operative parts are entirely inclosed within the body or handle of the wrench.

The wrench embodying the invention has a tubular metal body member carrying one jaw and having in the upper portion thereof a square or like angular bore or guideway to receive the like shaped angular body of the moving member carrying the other jaw of the wrench, and below the same a cylindrical portion receiving a hollow cylindrical extension of the moving member, that extension being threaded internally and engaging with the threaded operating bar which is confined within the wrench body by a supplementary sleeve which also serves to bind the handle on the wrench body, the wrench being operated by the turning of the inclosed threaded bar through a suitable hand nut at the end of the wrench.

In the accompanying drawing Figure 1 is a side view; Fig. 2 is a longitudinal central section thereof; Fig. 3 is a perspective view partly broken away of the body member; and Fig. 4 is a like view of the movable jaw.

The main body member and the moving member of the wrench are forged to shape and suitably bored, for example, the main body member 2 being formed of a bar slightly reduced in its lower portion 3 and having a jaw 4 at its upper end. In the upper portion of this body member is the square or angular bore or guideway 5, while below the same the bore is formed cylindrical as at 6. The moving member 7 of the wrench has the jaw 8 and is provided with the angular body portion 9 entering within the angular socket or bore 5 and has below the same the cylindrical extension 10 fitting closely within the cylindrical bore 6 of the body member. The moving member of the wrench is thus guided practically throughout the length of the body member both by the angular portion thereof and the cylindrical portion thereof fitting within like shaped guideways or sockets therefor within the body portion, and a long angular body portion of the moving member can be employed which makes it possible to provide widely opening jaws in proportion to the length of the wrench body, enabling the wrench to grip and hold nuts of relatively large size. The cylindrical extension 10 of the moving member 7 is formed hollow and has a long heavy square thread cut within the same as at 11 to engage with a like thread 12 on the screw bar 13 which enters within the tubular extension 10 of the moving member and through its rotation within the handle or body imparts movement to the movable jaw of the wrench. The threads of the screw bar 13 and tubular extension 10 are at a deep incline or what might be termed a double pitch, so as to provide for quick movement and adjustment of the wrench, by a slight turning of the screw bar. The threads are also "square cut" so providing square shoulders in the thread to sustain the thrust. The screw bar 13 has below its threaded portion 12 the collar 14 and beyond the same the cylindrical portion 15 which extends through the short sleeve 20 and carries beyond the same the thumb nut 16 held thereon by any suitable means, such as by a tight threaded joint. Fitting over the reduced portion 3 of the wrench body is the handle portion 17 which may be made of wood or other material as desired, its inner edge fitting against the shoulders 18 of the wrench body, while the handle has an enlarged shouldered seat 19 at its end, and is held in place by the tube 20 which passes through the handle and screws into the end of the reduced extension 3 of the body, the tube having the head 20′ entering the seat 19 and so clamping the handle between the shoulder 18 of the wrench body and the head 20′ of the tube. The tube 20 thus binds the handle upon the body portion, and its inner edge 21 forms an abutment to receive the thrust brought upon the collar 14 of the screw bar 13 in the use of the wrench.

When the wrench is in use, by turning the thumb nut 16 the moving member 7 can be

rapidly advanced and retracted as desired to force it out of the body member 2 and draw it back therein simply by the rotation of the screw bar, and while the wrench body is held by the handle it can be quickly adjusted and a few turns of the thumb nut will force the moving member out of the body for practically one-third of the length of the wrench, while by turning the thumb nut in the opposite direction a strong gripping hold may be obtained by the wrench, and as all the parts are inclosed within the handle a compact, strong wrench is provided in which all the parts are protected from injury and the moving member is fully supported and guided no matter what its position of adjustment may be within the body member. By fitting the cylindrical extension 10 closely within the cylindrical guideway 6 the moving member of the wrench carrying the jaw is braced below the angular portion thereof and the strain which has heretofore been usually sustained only by the angular portion and the angular seat in the body portion, is sustained throughout the length of the moving member, such strain being distributed for a greater length throughout the wrench body, giving a stronger wrench construction and a more compact one. The wrench has the further advantage that as the threaded connection between the screw bar and cylindrical sleeve of the moving member is entirely inclosed within the wrench body, liability of clogging by dirt or the like is prevented. It also has the further advantage that it can be made to quickly grip any object such as a bolt by but a slight turn of the thumb nut and as the wrench body is of but small diameter it can hold a nut to be adjusted in difficult positions to be reached, such as in connection with automobile work and the like, so giving a very handy and easily adjusted wrench for such purposes. It has also the further advantage that the moving member is freely removable, such as for cleaning, or substituting a pipe jaw as shown in Fig. 4 or for repair of the jaws.

What I claim is:

1. In a wrench, the combination with a body portion carrying a jaw, and having an angular socket and beyond the same a cylindrical extension, of a moving member carrying a jaw having a like shaped angular body portion and a cylindrical sleeve extension fitting closely within both the angular socket and the cylindrical bore of the body and interiorly threaded, a handle and a screw bar mounted to turn within the handle and having a threaded portion engaging with the threaded sleeve extension of the moving member.

2. In a wrench, the combination with a body portion carrying a jaw and having an angular socket and beyond the same a cylindrical extension, of a moving member carrying a jaw and having a like shaped angular body portion and beyond the same a cylindrical sleeve extension fitting within the angular socket and the cylindrical bore of the body and interiorly threaded, a handle fitting over the wrench body, a tube entering through the handle and having a threaded engagement with the cylindrical extension of the body member and acting to clamp the handle between said tube and the body member, and a screw bar mounted to turn within said tube and having a threaded portion engaging with the cylindrical sleeve extension of the moving member.

3. In a wrench, the combination with the body portion carrying the jaw and having an angular socket and below the same a cylindrical extension, a moving member carrying a jaw and having a like shaped angular body portion and a cylindrical sleeve extension fitting within the angular socket and cylindrical bore of the body and interiorly threaded, a screw bar having a threaded portion engaging with the cylindrical sleeve extension of the moving member, said screw bar having an annular shoulder, a handle fitting over the body member, and a tube entering the outer end of the handle and engaging with the cylindrical extension of the body member to clamp the handle thereon and confine the screw bar in place through said annular shoulder thereon.

In testimony whereof, I the said HARRY G. GODLEY, have hereunto set my hand.

HARRY G. GODLEY.

Witnesses:
ROBERT C. TOTTEN,
JOHN F. WILL.